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BATTERY COUNCIL INTERNATIONAL STATISTICS ANNUAL

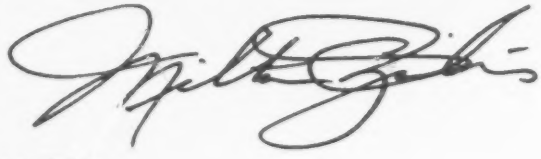
111 East Wacker Drive Chicago, Illinois 60601

Letter from the President

Battery Council International, now in its 58th year of existence as the principal trade group in the automotive battery industry is pleased to have published its initial **Statistics Annual** on the Battery Industry. Clearly this publication is a prime example of our Association executing one of its original statements of purpose: "to serve as a clearing house for the lawful collection and dissemination of statistics and other relevant information."

Information provided by manufacturing members of BCI formulates the data base from which all of the exhibits on batteries are drawn. Additional data on vehicles, metals, etc. have been provided to us by organizations in each field. We extend a note of appreciation to them for making the publication truly industry-wide.

I believe that you will find a wealth of information contained on the following pages to serve as a reliable resource document on the battery industry. As we develop new and timely information relevant to the industry, we will expand the scope of our booklet to present this valuable information to you.



M. Zilis
President
Battery Council International

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INTRODUCTION

The United States battery market was a growing sector of the United States economy in the 1970's. Spurred on by motor vehicle production, which rose sharply, total original equipment and replacement lead acid storage battery shipments increased at a 13.4 percent annual average compound rate between 1970 and 1979. Additionally, the battery's share of the GNP rose to .136 percent in 1979 from .107 percent in 1970.

Healthy automobile sales during the past decade resulted in a significant jump in the incidence of automobiles relative to U.S. population. Between 1970 and 1975, the number of automobiles per 100 persons increased by 24 percent. Between 1975 and 1980, the number of automobiles per 100 persons escalated 29 percent. In real terms, there were approximately 55.4 passenger cars for every 100 persons in the United States in 1980.

In recent years, the burgeoning battery industry of the 1970's has been adversely affected by the depressed state of the original equipment market. The eighth recession since World War II has plunged the automotive industry into a downward spiral from which it has yet to recover. Stymied by high interest rates and a generally sluggish economy, 1981 passenger car sales registered 8.5 million units, 5 percent below 1980 and 25 percent below 1978. In an effort to balance existing inventories of unsold cars, automotive producers were forced to slash production. Consequently, original equipment battery shipments declined along with automotive production.

Sales of batteries to the original equipment market now account for 15 percent of S.L.I. lead acid storage battery annual shipments. This percentage is down from the average 20 percent maintained during the last two decades. Subsequently, original equipment battery production has declined. This reduction not only affects short-term original equipment battery supply, but has long-term repercussions as well for aftermarket replacement parts.

Despite the recent difficulties experienced in the original equipment battery segment, a number of factors have created growth in today's battery market. The demand for replacement batteries continues to thrive. A major factor responsible for the surge in demand for replacement batteries is the aging U.S. motor vehicle fleet. Consumers, in the face of rising costs, are keeping their cars longer. Department of Commerce figures indicate that in 1970, less than 16 percent of the cars on the road were over 8 years old. Less than a decade later, however, over 25 percent of U.S. cars in use were over 8 years old. The Motor Vehicle Manufacturers Association reports the average age of a passenger car in operation climbed to 6.9 years in 1981 from 5.5 years a decade earlier. Overall, indications are that the percentage of cars being scrapped will decline as ownership lengthens providing the battery industry with a significant group of potential second and third replacement sales.

Secondly, the truck and bus markets will continue to represent one of the fastest growing industry segments due to deregulation and dramatic shifts in U.S. population. Another important factor, record new car sales in 1978, should add to the momentum of replacement battery shipments as these cars are now prime candidates for a first replacement battery.

A particular area of interest over the last few years has been the channels of distribution for batteries. Battery and automotive accessory retailers are capturing greater shares of retail automotive replacement battery sales, while gasoline stations and motor vehicle dealers are losing ground. Battery Specialist and Mass Merchandiser sales are expected to grow through the short-term, and in 1985 these two channels combined are projected to occupy approximately 75 percent of replacement distribution. Within the channnels, private brand replacement batteries continue to dominate the retail automotive replacement market.

Research conducted from 1976 through 1981 indicates that batteries are more powerful and last longer. Industry marketing analysts agree that this additional energy capacity is necessary to sufficiently handle the demands of computerized warning systems and advanced diagnostic features which will dress up future car models. While more powerful, the research also shows that batteries have become lighter in recent years. Data reveals an overall 6 percent reduction in battery weight over the study period, and this trend seems firmly established.

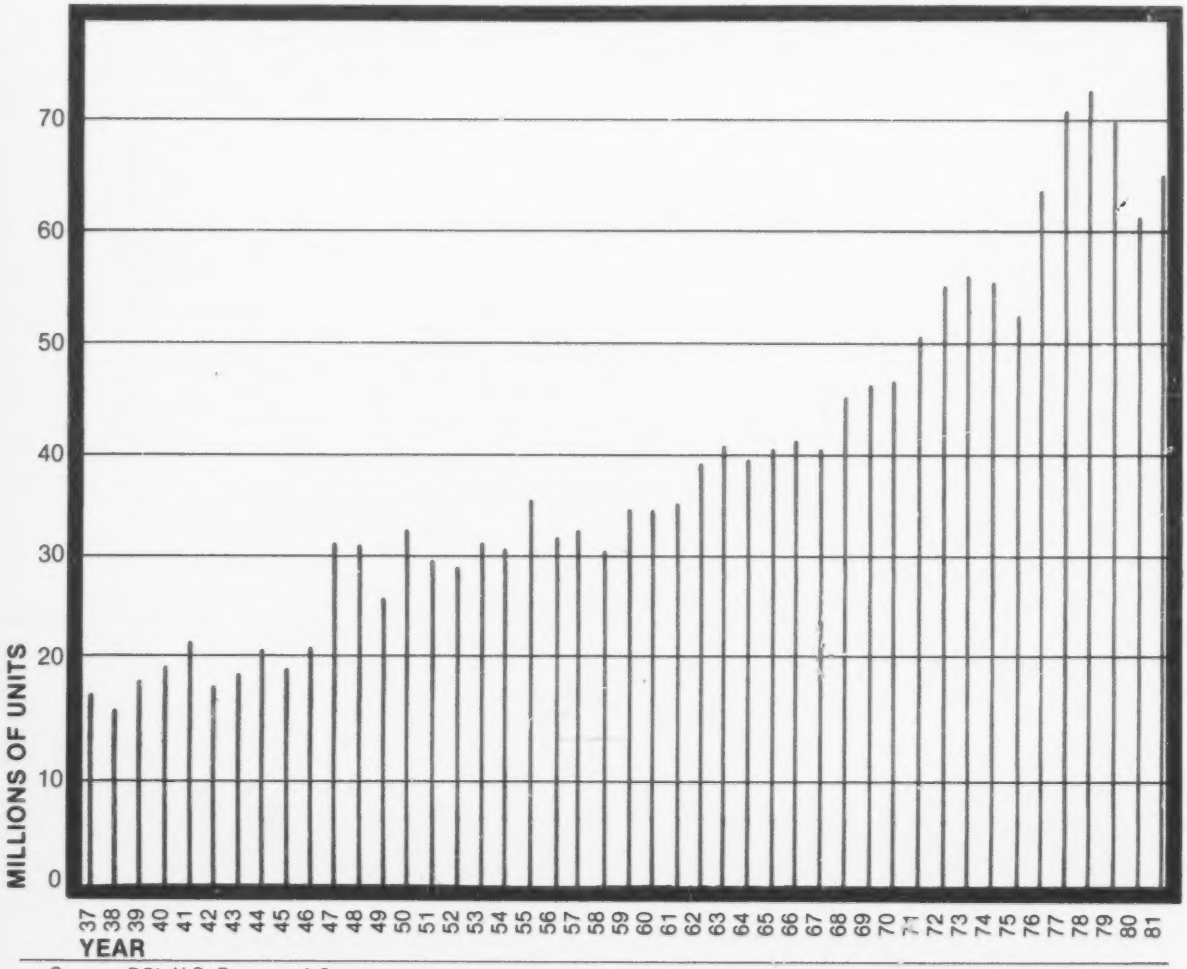
Indications are that increased fuel efficiency will continue to be important in the 1980's. Buyers who are keenly aware of the volatility in fuel costs and threats of future shortages have drawn attention to this trend. The accelerating demand for diesel automobiles and the increasing use of motorcycles for non-recreational purposes have, due to their unique power demands, created new areas of development for S.L.I. batteries. Additional potential markets during the 1980's include storage batteries for electric vehicles, electric solar systems, and standby power systems.

1982 replacement battery shipments were off to a good start because of bitter winter temperatures that paralyzed large sections of the United States and Canada. BCI projections for the months remaining in 1982 are optimistic. Replacement batteries should continue to exhibit relative strength with 1982 shipments exceeding 1981 by 4 percent and reaching 55.7 million units. The original equipment market will not equal 1981 levels, but improving economic conditions signal slow but consistent industry improvement during the first half of 1983.

U.S. TOTAL SHIPMENTS* OF S.L.I. BATTERIES

MILLIONS OF UNITS

1937	16.1	**1946**	21.0	**1955**	35.4	**1964**	39.1	**1973**	57.1
1938	14.6	**1947**	31.2	**1956**	32.3	**1965**	40.7	**1974**	55.6
1939	17.4	**1948**	31.0	**1957**	33.4	**1966**	41.6	**1975**	52.9
1940	19.3	**1949**	26.1	**1958**	30.6	**1967**	40.2	**1976**	64.1
1941	21.4	**1950**	32.9	**1959**	34.4	**1968**	45.0	**1977**	70.7
1942	16.5	**1951**	29.6	**1960**	34.4	**1969**	46.4	**1978**	73.2
1943	18.1	**1952**	28.4	**1961**	35.2	**1970**	46.9	**1979**	69.3
1944	20.4	**1953**	31.3	**1962**	39.0	**1971**	50.7	**1980**	61.6
1945	19.0	**1954**	30.8	**1963**	41.0	**1972**	55.5	**1981**	65.5

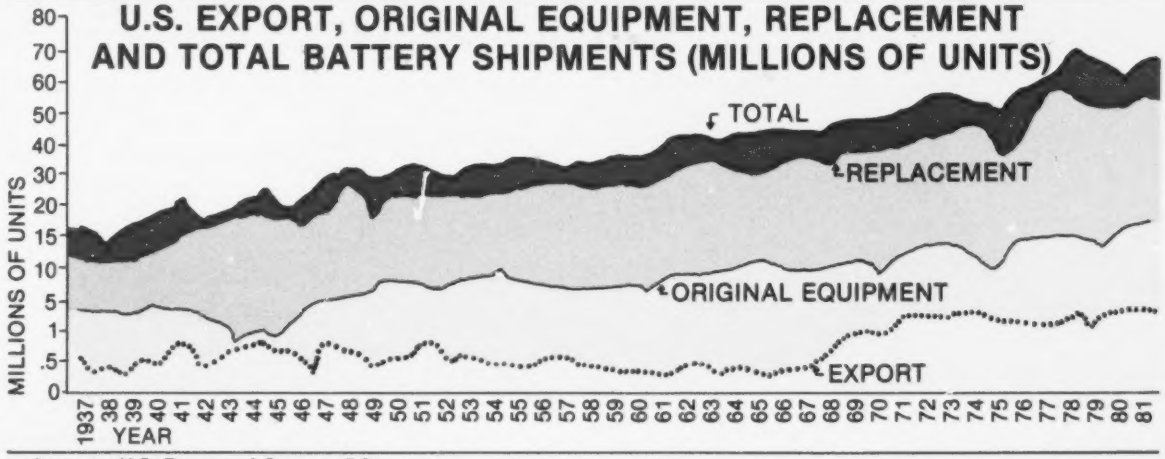


Source: BCI, U.S. Bureau of Census.

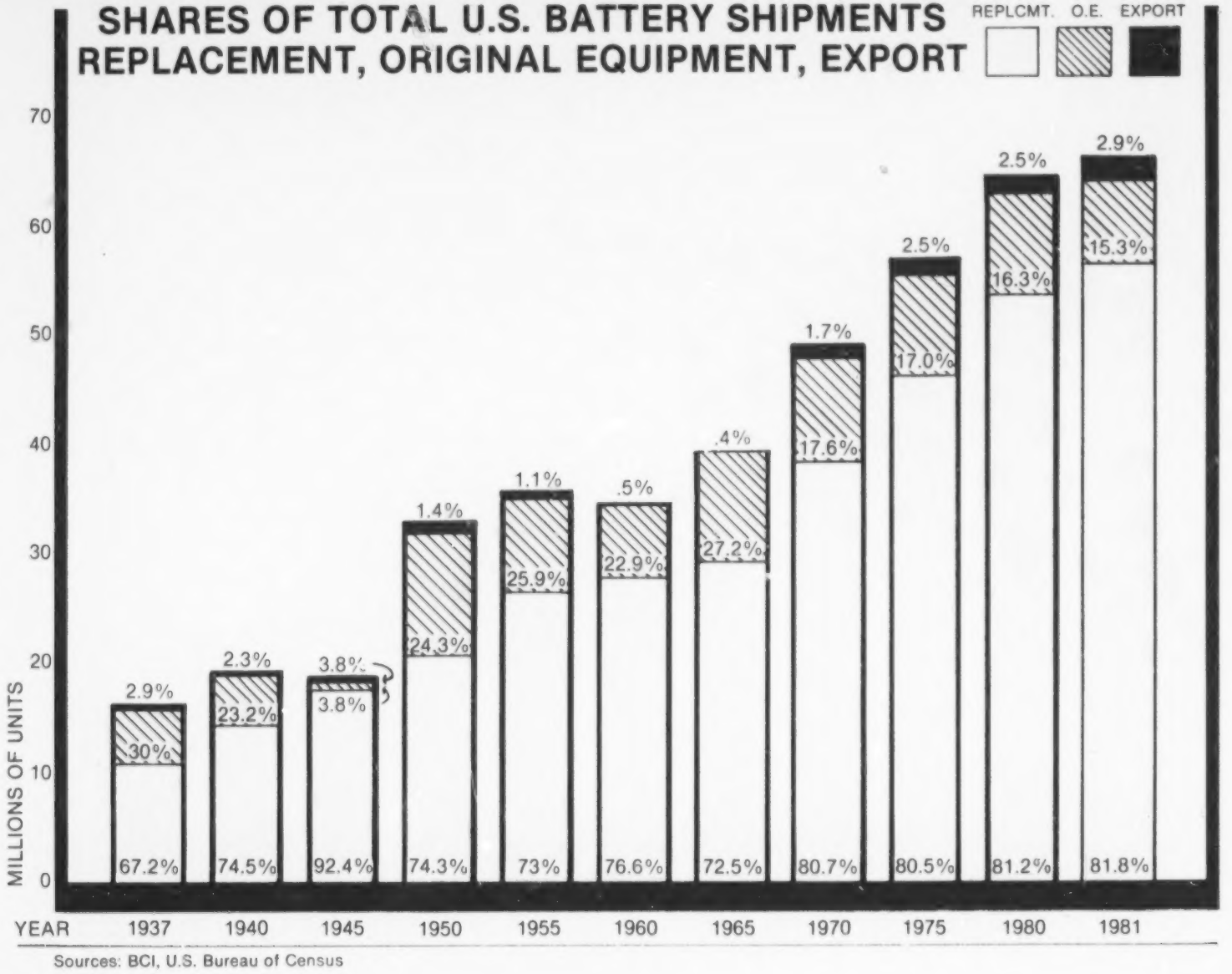
*Shipments represent rounded total replacement, original equipment, and export shipments.

BREAKDOWN OF U.S. BATTERY SHIPMENTS (1937-81)

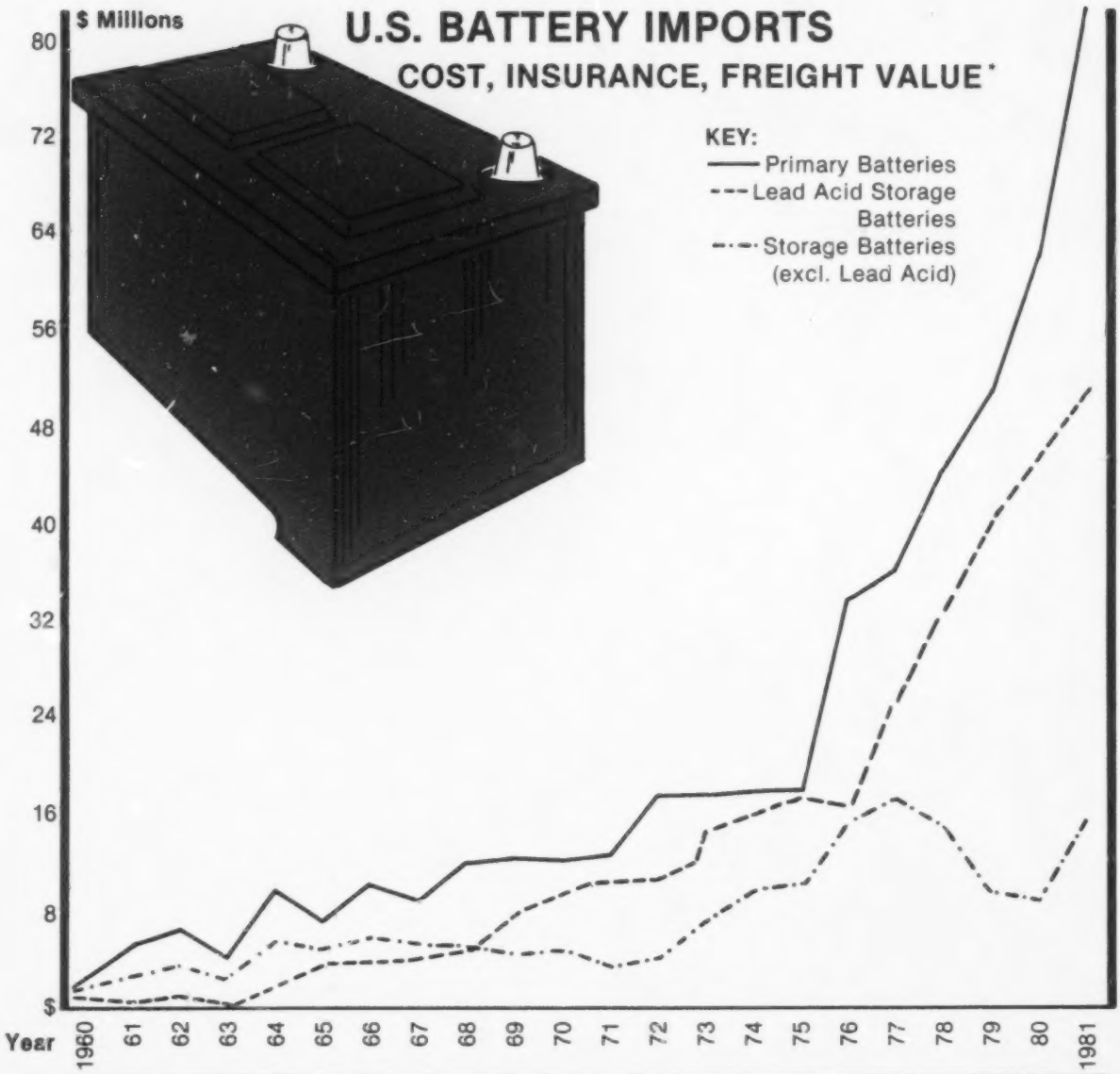
YEAR	REPLACEMENT	ORIGINAL EQUIPMENT	EXPORT 12V, 6V	YEAR	REPLACEMENT	ORIGINAL EQUIPMENT	EXPORT 12V, 6V
	MILLIONS OF UNITS			1959	27.5	6.7	.2
1937	10.8	4.8	.5	1960	26.3	7.9	.2
1938	11.7	2.5	.3	1961	28.3	6.7	.2
1939	13.4	3.6	.4	1962	30.5	8.2	.3
1940	14.3	4.5	.5	1963	31.7	9.1	.2
1941	15.9	4.8	.7	1964	29.6	9.3	.2
1942	15.2	1.0	.3	1965	29.5	11.1	.2
1943	17.0	.7	.4	1966	31.1	10.3	.2
1944	19.1	.7	.6	1967	31.0	9.0	.2
1945	17.6	.7	.7	1968	33.8	10.7	.5
1946	17.5	3.1	.4	1969	35.5	10.1	.8
1947	25.8	4.8	.6	1970	37.9	8.2	.8
1948	25.1	5.3	.6	1971	39.1	10.6	.9
1949	19.4	6.3	.5	1972	43.2	11.3	1.0
1950	24.4	8.0	.5	1973	43.5	12.6	1.0
1951	22.2	6.8	.7	1974	44.4	10.1	1.1
1952	22.5	5.5	.4	1975	42.6	9.0	1.3
1953	23.6	7.3	.4	1976	49.2	13.4	1.5
1954	23.8	6.6	.4	1977	54.6	14.7	1.4
1955	25.8	9.2	.4	1978	56.4	15.2	1.6
1956	25.0	6.9	.4	1979	53.7	14.4	1.2
1957	25.9	7.2	.3	1980	50.1	10.0	1.6
1958	25.3	5.1	.2	1981	53.6	10.0	1.9



Sources: U.S. Bureau of Census, BCI
Shipment figures rounded.



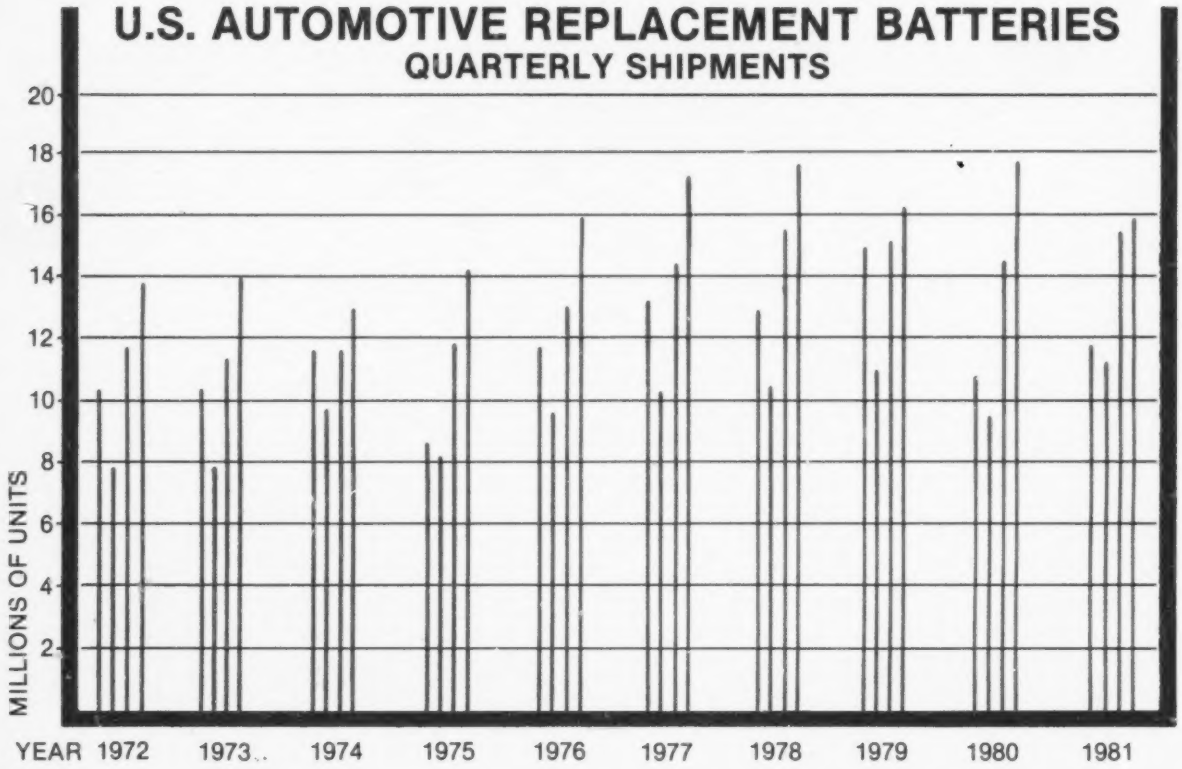
Sources: BCI, U.S. Bureau of Census



Source: U.S. Bureau of Census, U.S. Imports, General & Consumption Schedule A, Commodity & Country Report FT 135. Primary Batteries, Commodity Code 7781100, Lead Acid Storage Batteries, Commodity Code 7781420, Storage Batteries (excl. Lead Acid), Commodity Code 7781460.

* Cost, Insurance Freight Value represents the value of imports at the first port of entry in the U.S. CIF values are based on the purchase price and include all freight, insurance, and other charges (excl. U.S. import duties) incurred in bringing the merchandise from the country of exportation to the first port of entry in the U.S.

$-Current value of dollar for each year; not constant dollars.



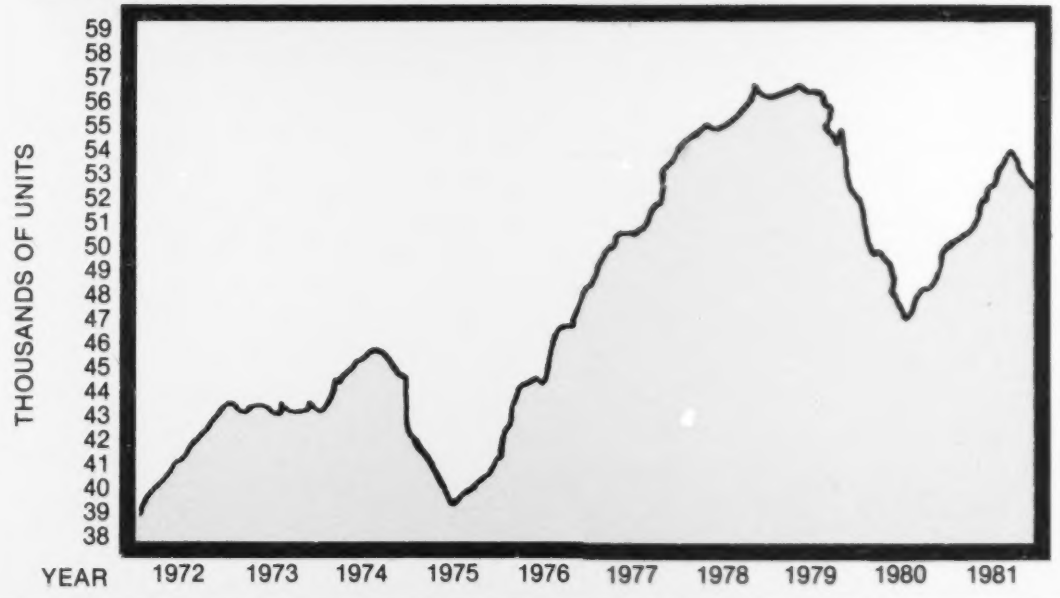
	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
	MILLIONS OF UNITS									
1st QTR	10.3	10.2	11.3	8.6	11.2	13.1	12.9	13.7	10.3	11.7
2nd QTR	7.6	7.9	9.2	8.1	9.4	10.0	10.5	10.6	8.8	10.6
3rd QTR	11.8	11.6	11.3	11.8	12.7	14.3	15.1	13.7	13.8	15.4
4th QTR	13.5	13.8	12.6	14.1	15.9	17.2	17.9	15.7	17.2	15.9
YEARLY TOTAL	43.2	43.5	44.4	42.6	49.2	54.6	56.4	53.7	50.1	53.6

Source: BCI

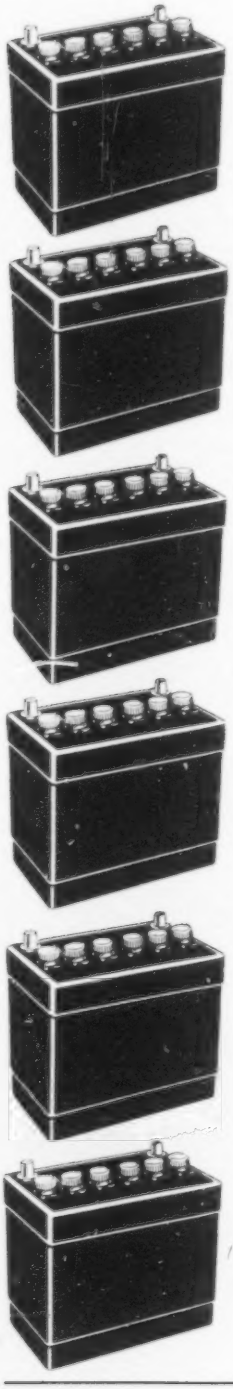
U.S. SHIPMENTS OF AUTOMOTIVE REPLACEMENT BATTERIES — 12 MONTH MOVING TOTALS

Thousands of Units

MONTH \ YEAR	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
JAN	39,467.2	43,642.8	43,855.9	42,882.9	43,771.8	49,818.6	54,128.9	57,043.0	52,240.6	51,024.9
FEB	40,228.0	43,096.9	44,355.1	41,985.4	44,698.8	50,495.2	54,318.8	57,066.1	51,207.2	51,352.1
MAR	40,537.9	43,108.6	44,587.8	41,675.2	45,260.0	51,121.4	54,347.1	57,158.8	50,335.9	51,486.4
APR	40,843.8	43,362.8	45,004.5	41,536.7	45,468.8	51,314.3	54,450.6	57,204.2	50,018.0	51,932.5
MAY	41,209.3	43,436.6	45,516.0	41,085.5	45,658.9	51,737.9	54,601.5	57,107.5	49,424.1	52,655.4
JUN	41,475.0	43,449.4	45,952.9	40,507.3	46,517.6	51,726.8	54,783.7	57,242.3	48,642.6	53,264.8
JUL	41,804.3	43,187.0	46,024.6	40,621.4	46,939.7	51,754.2	54,936.4	57,182.2	48,524.0	53,776.8
AUG	42,285.0	43,220.3	46,659.0	40,734.6	47,407.3	52,498.4	55,104.3	56,961.8	48,061.4	54,490.5
SEP	42,420.9	43,207.4	45,657.2	41,008.3	47,481.6	53,294.0	55,569.5	55,966.8	48,665.0	54,845.8
OCT	42,663.5	43,484.1	45,587.1	41,242.3	47,801.3	54,041.2	55,951.2	55,423.7	49,015.1	54,798.1
NOV	42,907.0	43,718.1	44,805.6	41,556.1	48,579.6	54,183.2	56,448.9	54,917.5	49,190.0	54,105.7
DEC	43,220.1	43,453.0	44,408.1	42,582.0	49,202.9	54,600.7	56,389.4	53,746.3	50,063.2	53,597.9



Source: BCI



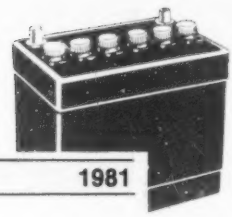
U.S. BATTERY SHIPMENTS

REPLACEMENT AND ORIGINAL EQUIPMENT SHARES BY PRODUCT CATEGORY (%'s)

	1978	1979	1980	1981
PRODUCT CATEGORY	%R / %OE	%R / %OE	%R / %OE	%R / %OE
Passenger Car	76/24	77/23	82/18	83/17
Heavy Duty Commercial	79/21	80/20	82/18	84/16
Heavy Duty Coach	90/10	96/ 4	96/ 4	100/ 0
Special Tractor	88/12	90/10	93/ 7	94/ 6
General Utility	57/43	62/38	62/38	69/31
Electric Vehicle	80/20	85/15	84/16	89/11
Marine	99/ 1	99/ 1	97/ 3	99/ 1

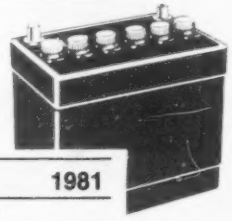
Source: BCI

UNITED STATES REPLACEMENT BATTERY SHIPMENTS: PRODUCT CATEGORY %'s



PRODUCT CATEGORY	1978	1979	1980	1981
Passenger Car, Light Commercial — 12V	84.0%	82.7%	82.7%	82.6%
6V	3.6%	3.4%	3.0%	2.7%
	87.6%	86.1%	85.7%	85.3%
Heavy Duty Commercial 12V	2.6%	3.4%	3.7%	3.9%
6V	3.8%	4.0%	3.7%	3.3%
	6.4%	7.4%	7.4%	7.2%
Special Tractor	1.4%	1.5%	1.3%	1.4%
General Utility	1.6%	1.9%	1.7%	2.0%
Electric Vehicle	1.7%	1.6%	1.8%	1.6%
Marine	1.3%	1.5%	2.1%	2.5%
TOTAL	100.0%	100.0%	100.0%	100.0%

UNITED STATES ORIGINAL EQUIPMENT BATTERY SHIPMENTS: PRODUCT CATEGORY %s

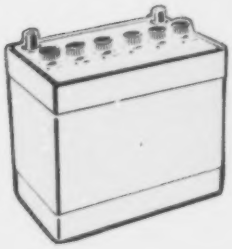


PRODUCT CATEGORY	1978	1979	1980	1981
Passenger Car, Light Commercial — 12V	87.4%	86.3%	84.5%	86.8%
6V	.7%	.7%	.8%	.4%
	88.1%	87.0%	85.3%	87.2%
Heavy Duty Commercial 12V	4.4%	6.1%	6.1%	5.5%
6V	1.1%	1.3%	1.5%	1.3%
	5.5%	7.4%	7.6%	6.8%
Special Tractor	.6%	.6%	.5%	.4%
General Utility	3.9%	4.1%	4.7%	4.4%
Electric Vehicle	1.4%	1.0%	1.6%	1.0%
Marine	.1%	.1%	.3%	.2%
Misc.	.4%	0%	0%	0%
TOTAL	100.0%	100.2%	100.0%	100.0%

Source: BCI
Percentages rounded.

U.S. AUTOMOTIVE REPLACEMENT BATTERY SHIPMENTS TO CHANNELS OF DISTRIBUTION

Millions of Units



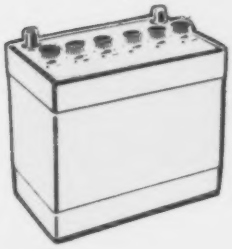
YEAR

CHANNELS	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
GAS/OIL	5.3	5.7	5.5	5.0	5.4	5.3	4.1	4.6	5.3	4.8	4.5
TIRES/RUBBER	2.2	2.6	2.3	2.5	2.4	2.2	2.2	2.5	2.8	3.1	2.8
MASS MERCHANDISERS (Department Stores)	7.2	8.2	9.4	10.1	9.7	9.4	9.0	10.1	12.9	13.0	11.6
MASS MERCHANDISERS (Discount Stores)	|	|	|	|	|	1.0	1.8	2.0	2.4	2.6	2.4
MASS MERCHANDISERS (Auto Chains)	3.7	3.7	3.6	3.7	3.9	3.0	3.0	3.2	2.9	3.6	3.2
MASS MERCHANDISERS (Other)	|	|	|	|	|	1.2	1.2	1.3	1.7	1.7	1.6
FLEET OPERATIONS	.3	.6	.6	.6	.5	.3	.3	.4	.4	.4	.4
GOVERNMENT	NA	NA	NA	NA	NA	.2	.3	.3	.3	.3	.4
VEHICLE/EQUIP. MFG.	1.7	2.2	2.1	2.1	3.8	4.9	4.1	3.9	2.3	2.8	2.9
PARTS DISTRIBUTORS	9.5	9.2	9.4	7.5	7.6	10.2	7.8	10.5	11.9	11.0	11.1
BATTERY SPECIALISTS	3.4	3.4	3.8	4.5	7.2	4.6	6.1	6.9	8.6	10.4	10.2
OTHER	.1	.2	.3	.4	.8	1.4	1.0	1.7	1.3	1.5	1.5
TOTAL	33.4	35.8	37.0	36.4	41.3	43.7	40.9	47.4	52.8	55.2	52.6
*No. Reporting	28	24	24	16	23	23	22	22	20	20	20

Source: BCI

*Shipments based on the above number of reporting members.

U.S. AUTOMOTIVE REPLACEMENT BATTERY SHIPMENTS TO CHANNELS OF DISTRIBUTION



Millions of Units **cont.**

CHANNELS	YEAR 1980	1981
GAS/OIL	3.3	3.1
TIRES/RUBBER	2.2	2.3
MASS MERCHANDISERS (Department Stores)	10.1	10.9
MASS MERCHANDISERS (Discount Stores)	2.8	3.5
MASS MERCHANDISERS (Auto Chains)	3.0	3.1
MASS MERCHANDISERS (Other)	1.6	1.9
FLEET OPERATIONS	.3	.3
GOVERNMENT	.4	.4
VEHICLE/EQUIP. MFG.	2.2	2.4
PARTS DISTRIBUTORS	9.9	9.9
BATTERY SPECIALISTS	12.7	14.1
OTHER	.3	.4
TOTAL	48.8	52.3
*No. Reporting	20	20

Source: BCI

*Shipments based on the above number of reporting members.

PERCENTAGES* OF U.S. AUTOMOTIVE REPLACEMENT SHIPMENTS TO CHANNELS OF DISTRIBUTION

CHANNELS	YEAR				
	1965	1970	1975	1980	1981
GAS/OIL	14.3	15.9	10.0	6.8	5.9
TIRES/RUBBER	9.0	7.3	5.4	4.5	4.4
MASS MERCHANDISERS (Department Stores)	19.1	22.9	22.0	20.7	20.8
MASS MERCHANDISERS (Discount Stores)	NA	NA	4.4	5.7	6.7
MASS MERCHANDISERS (Auto Chains)	9.2	10.3	7.3	6.1	5.9
MASS MERCHANDISERS (Other)	NA	NA	2.9	3.3	3.6
FLEET OPERATIONS	1.5	1.7	.7	.6	.6
GOVERNMENT	NA	NA	.7	.8	.8
VEHICLE/EQUIP. MFG.	5.7	6.1	10.0	4.5	4.6
PARTS DISTRIBUTORS	29.2	25.7	19.1	20.3	18.9
BATTERY SPECIALISTS	8.9	9.5	14.9	26.0	27.0
OTHER	3.1	.6	2.5	.6	.8
TOTAL	100.0%	100.0%	99.9%	99.9%	100.0%
*No. Reporting	24	24	22	20	20

Source: BCI

*Percentages rounded.

PRIVATE BRANDS VS. MANUFACTURER'S OWN (%'s)

U.S. BATTERY SHIPMENTS* TO CHANNELS OF DISTRIBUTION

CHANNELS	YEAR						
	1975 PB/MB	1976 PB/MB	1977 PB/MB	1978 PB/MB	1979 PB/MB	1980 PB/MB	1981 PB/MB
GAS/OIL	91/9	88/12	87/13	87/13	86/14	82/18	87/13
TIRES/RUBBER	72/28	74/26	74/26	77/23	77/23	67/33	68/32
MASS MERCHANDISERS (Department Stores)	100/0	100/0	100/0	99/1	99/1	99/1	99/1
MASS MERCHANDISERS (Discount Stores)	94/6	94/6	96/4	99/1	99/1	99/1	98/2
MASS MERCHANDISERS (Auto Chains)	97/3	98/2	97/3	96/4	98/2	94/6	92/8
MASS MERCHANDISERS (Other)	76/24	92/8	93/7	88/12	82/18	80/20	71/29
PARTS DISTRIBUTORS	32/68	31/69	36/64	40/60	42/58	40/60	42/58
GOVERNMENT	1/99	3/97	1/99	2/98	0/100	0/100	0/100
FLEET OPERATIONS	11/89	28/72	27/73	16/84	15/85	14/86	2/98
VEHICLE/EQUIP. MFGS.	31/69	31/69	36/64	40/60	42/58	82/18	84/16
BATTERY SPECIALISTS	64/36	62/38	62/38	67/33	68/32	68/32	70/30
OTHER	30/70	62/38	92/8	94/6	84/16	32/68	30/70

Source: BCI

*Percentages rounded.

QUARTERLY PRODUCTION OF AUSTRALIAN S.L.I. BATTERIES (000's)

	1973	1974	1975	1976	1977	1978	1979	1980	1981
1ST QTR.	527.4	545.2	546.1	582.0	623.2	731.6	721.0	635.4	609.7
2ND QTR.	684.7	681.1	732.2	819.9	808.6	925.0	841.9	714.8	783.2
3RD QTR.	720.6	765.1	736.8	773.8	799.1	911.3	934.7	716.0	711.2
4TH QTR.	556.7	673.5	577.3	659.4	687.7	771.8	722.2	633.0	622.4
YEARLY TOTAL	2489.4	2664.9	2592.4	2835.1	2918.6	3339.7	3219.8	2699.2	2726.5

AUSTRALIAN S.L.I. BATTERY PRODUCTION (000's) 12 MONTH MOVING TOTALS

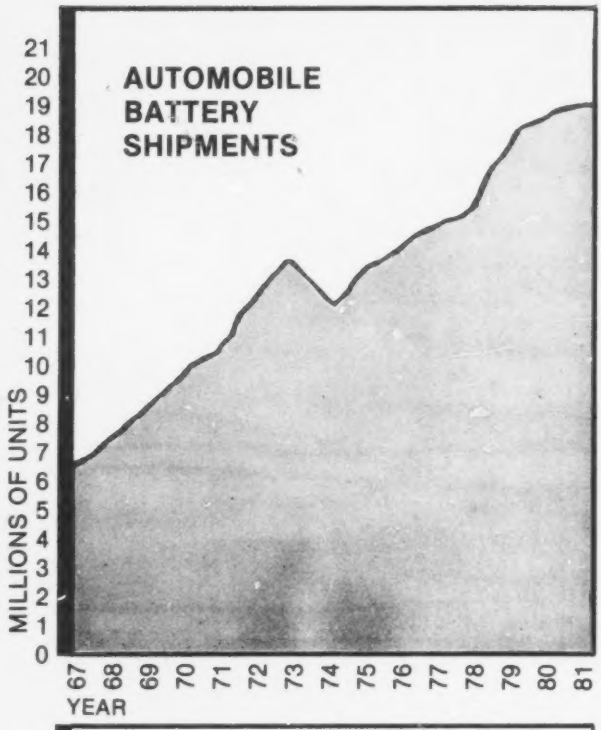
	1973	1974	1975	1976	1977	1978	1979	1980	1981
JAN	2373.2	2524.2	2655.7	2569.7	2847.6	2966.7	3326.6	3189.6	2688.6
FEB	2401.8	2552.8	2649.8	2588.9	2847.7	3004.5	3323.7	3181.6	2642.1
MAR	2415.1	2507.2	2665.8	2628.3	2876.2	3027.4	3329.5	3134.1	2673.6
APR	2429.9	2493.3	2712.3	2646.9	2861.7	3059.3	3286.0	3116.1	2703.6
MAY	2449.8	2513.0	2675.4	2660.1	2871.7	3082.5	3295.4	3068.0	2704.0
JUN	2439.7	2503.6	2716.9	2716.0	2865.1	3143.8	3246.3	3007.0	2742.1
JUL	2461.8	2516.8	2696.2	2730.8	2859.1	3188.5	3244.9	2985.4	2722.7
AUG	2478.3	2509.3	2688.2	2740.8	2862.1	3233.8	3272.7	2867.3	2750.6
SEP	2467.3	2548.1	2688.6	2753.0	2890.7	3256.0	3269.5	2788.4	2737.2
OCT	2463.8	2629.6	2633.7	2737.8	2851.2	3350.5	3252.1	2773.9	2724.0
NOV	2488.4	2637.3	2585.9	2803.3	2896.7	3356.5	3245.1	2707.1	2714.9
DEC	2489.3	2664.9	2592.4	2835.1	2919.0	3340.1	3219.8	2699.2	2726.6

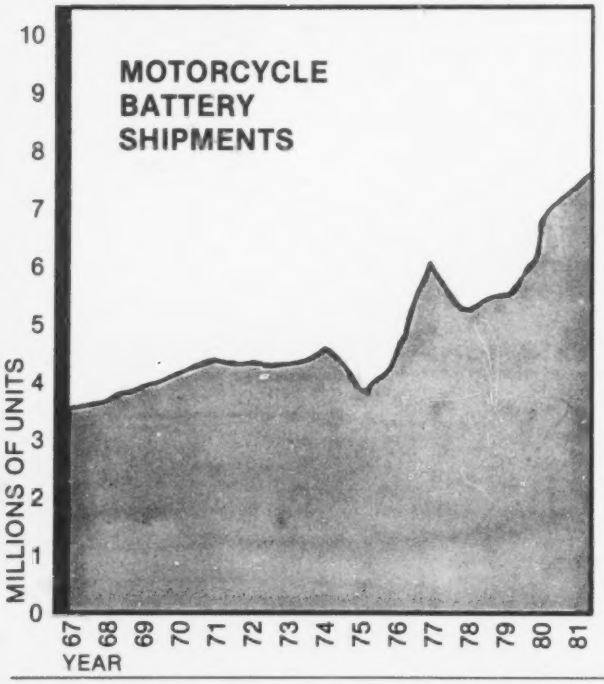
Source: Australian Lead Development Association

CANADIAN AUTOMOTIVE REPLACEMENT BATTERY SHIPMENTS
TWELVE MONTH MOVING TOTALS (000's)

	YEAR							
MONTH	1974	1975	1976	1977	1978	1979	1980	1981
JAN	3181.7	2449.3	2195.3	2886.4	2772.2	2435.8	2869.1	2653.5
FEB	3161.1	2387.9	2263.0	2830.5	2775.1	2460.7	2830.1	2712.3
MAR	3164.5	2325.5	2304.4	2777.8	2804.4	2488.8	2818.3	2724.6
APR	3162.6	2312.7	2306.5	2757.0	2824.0	2513.5	2786.2	2778.1
MAY	3189.2	2272.9	2279.6	2748.1	2848.8	2519.8	2742.9	2810.7
JUN	3170.1	2232.8	2272.2	2827.0	2760.5	2636.5	2655.5	2832.8
JUL	3152.3	2107.0	2306.0	2854.7	2689.1	2746.5	2564.0	2888.2
AUG	3027.5	2091.5	2523.5	2736.3	2672.7	2905.0	2374.4	2882.9
SEP	2919.7	2029.9	2657.7	2758.4	2617.9	2879.1	2390.8	2950.9
OCT	2739.1	2086.7	2720.7	2703.2	2615.5	2822.8	2545.1	2917.5
NOV	2572.5	2174.5	2748.0	2770.7	2496.9	2838.6	2626.3	2846.1
DEC	2504.1	2215.9	2864.6	2781.6	2445.1	2836.6	2710.1	2691.6

Source: Statistics Canada





JAPANESE TOTAL SHIPMENTS OF LEAD-ACID BATTERIES (1967-1981)

AUTOMOBILE BATTERY SHIPMENTS

MILLIONS OF UNITS

1967	6.4
1968	7.6
1969	9.1
1970	10.0
1971	10.6
1972	12.1
1973	13.6
1974	12.0
1975	13.1
1976	14.6
1977	15.2
1978	16.9
1979	18.2
1980	18.7
1981	19.1

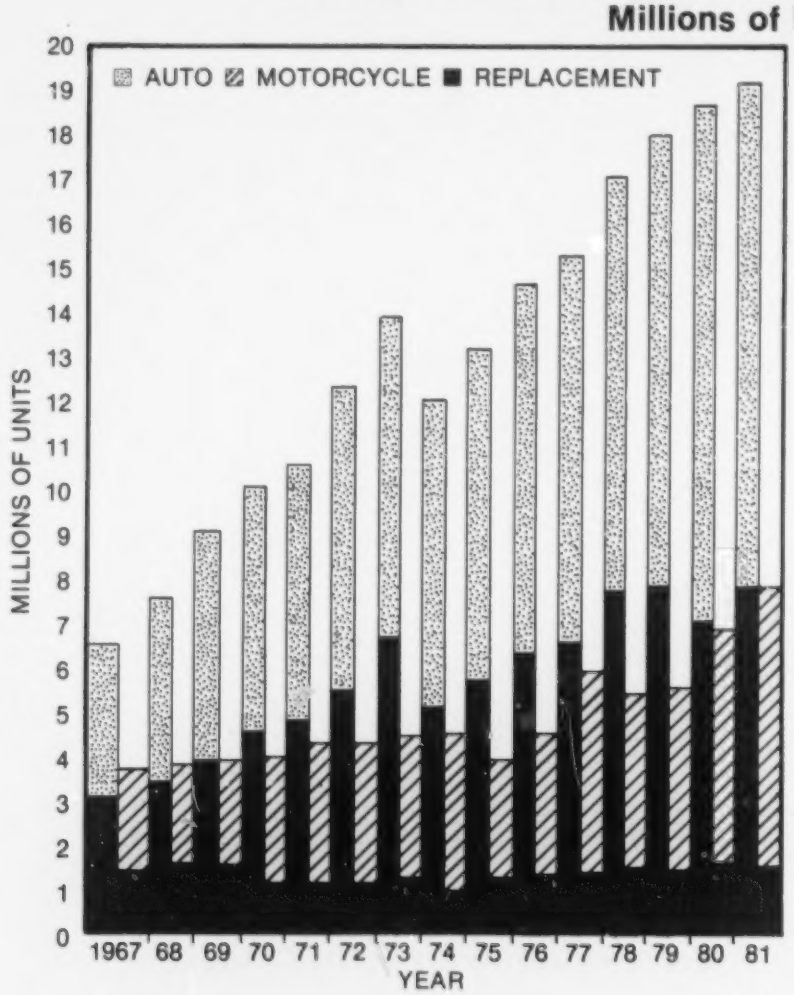
MOTORCYCLE BATTERY SHIPMENTS

MILLIONS OF UNITS

1967	3.6
1968	3.7
1969	3.9
1970	4.1
1971	4.3
1972	4.3
1973	4.3
1974	4.6
1975	3.9
1976	4.3
1977	5.9
1978	5.2
1979	5.4
1980	6.9
1981	7.5

Source: Japan Storage Battery Association, Tokyo, Japan
Figures Rounded.

AUTOMOBILE-MOTORCYCLE JAPANESE BATTERY SHIPMENTS
ORIGINAL EQUIPMENT VS REPLACEMENT*



*Shaded regions represent replacement battery shipments.

Year	Replacement	Original Equipment	Total Number
AUTOMOBILE BATTERIES			
1967	2.8	3.6	6.4
1968	3.2	4.4	7.6
1969	4.0	5.1	9.1
1970	4.3	5.7	10.0
1971	4.7	5.9	10.6
1972	5.4	6.7	12.1
1973	6.3	7.3	13.6
1974	5.3	6.7	12.0
1975	5.7	7.4	13.1
1976	6.4	8.2	14.6
1977	6.4	8.8	15.2
1978	7.5	9.4	16.9
1979	7.6	10.6	18.2
1980	7.1	11.6	18.7
1981	7.5	11.6	19.1
MOTORCYCLE BATTERIES			
1967	1.3	2.3	3.6
1968	1.3	2.4	3.7
1969	1.3	2.6	3.9
1970	1.0	3.1	4.1
1971	1.1	3.2	4.3
1972	1.1	3.2	4.3
1973	1.1	3.3	4.3
1974	.6	4.0	4.6
1975	.7	3.2	3.9
1976	.8	3.5	4.3
1977	.9	5.0	5.9
1978	1.0	4.2	5.2
1979	1.1	4.3	5.4
1980	1.3	5.6	6.9
1981	1.2	6.3	7.5

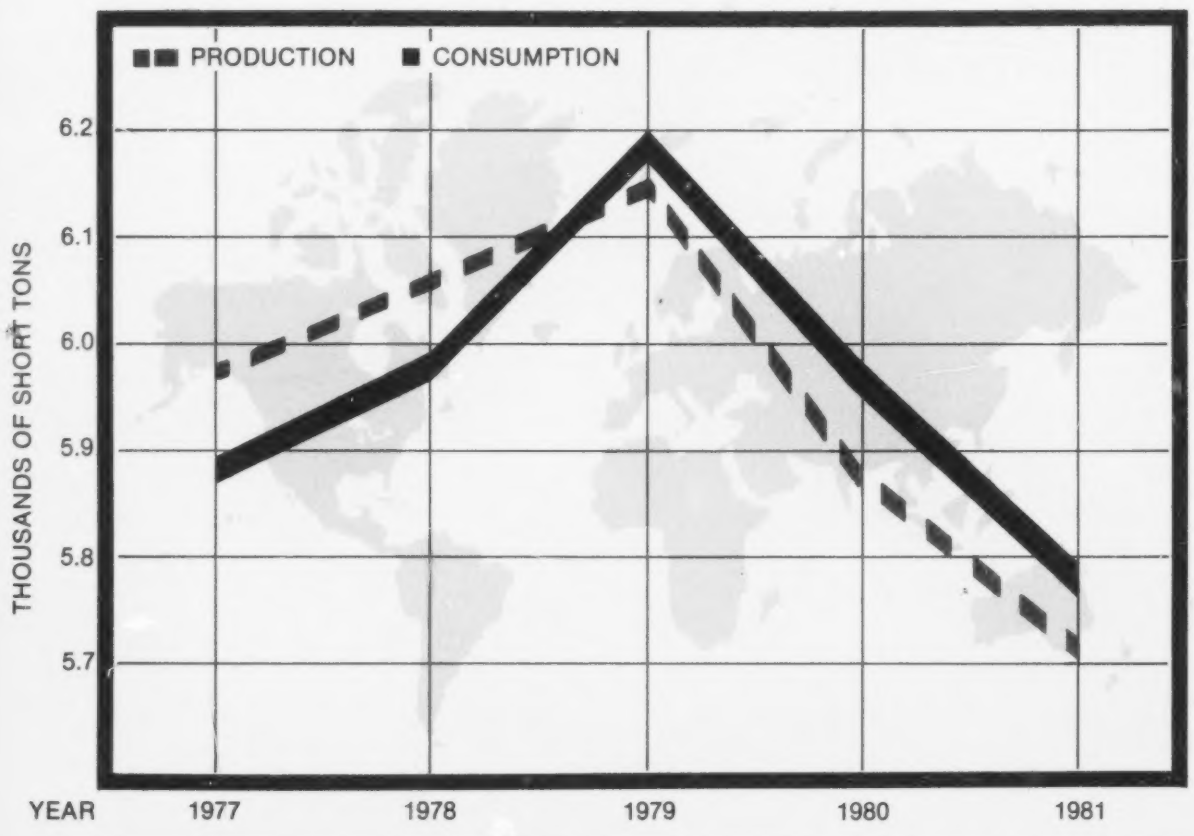
Source: Japan Storage Battery Association

Figures rounded.

WORLD REFINED PRODUCTION AND CONSUMPTION OF LEAD*

THOUSANDS OF SHORT TONS

	PRODUCTION	CONSUMPTION
1977	5899.5	5980.0
1978	5999.2	6062.8
1979	6193.2	6162.4
1980	5952.5	5871.5
1981	5770.4	5737.5



Source: American Bureau of Metal Statistics Inc., U.S. Bureau of Mines, Metaligesellschaft AG, World Bureau of Metal Statistics.
*Includes all secondary refined metal

CONSUMPTION OF LEAD IN UNITED STATES BY PRODUCT CATEGORY

Lead Content-Short Tons

	1977	1978	1979*	1980	1981p
Metal Products Total	**1,209,841**	**1,238,439**	**1,159,260**	**932,604**	**818,568**
Ammunition-shot & bullets	68,390	61,482	58,683	53,641	55,602
Bearing metals total	11,985	10,483	10,615	8,607	7,030
Machinery except electrical			997	1,801	-w-
Electrical & electronic equipment			87	43	—
Motor vehicles & equipment			4,204	2,471	2,700
Other transportation equip.			5,327	4,292	-w-
Brass & bronze-billets & ingots	16,698	18,190	20,666	15,411	12,226
Cable covering-power & communication	15,107	15,268	18,070	14,780	12,962
Calking lead-building construction	9,618	10,923	8,837	6,266	2,302
Casting metals total	5,983	3,980	25,072	20,967	10,007
Electrical machinery & equipment			1,236	855	-w-
Motor vehicles & equipment			2,836	1,397	1,385
Other transportation and equipment			16,042	13,647	7,981
Nuclear radiation shielding			4,958	5,068	-w-
Pipes, traps & other extruded products total	11,635	11,551	7,921	9,477	6,952
Building construction			6,875	8,526	-w-
Storage tanks, process vessels, etc.			1,046	951	-w-
Sheet lead total	16,761	13,918	22,523	21,821	6,317
Building construction			15,623	14,267	5,253
Storage tanks, process vessels, etc.			2,850	1,558	1,064
Medical radiation shielding			f	f	—
Solder total	64,286	75,387	59,831	45,598	25,503
Building construction			10,777	4,968	5,125
Metal cans & shipping containers			15,967	11,318	8,839
Electronic components & accessories			11,402	9,074	-w-
Other electrical machinery & equipment			2,989	3,013	-w-
Motor vehicles & equipment			18,696	17,225	7,005
Storage battery grids, posts, etc. total	459,335	454,774	413,978	333,162	291,984
Storage batteries-SLI automotive			386,141	305,336	270,067
Storage batteries - industrial & traction			27,837	27,826	21,917
Storage battery oxides total	486,541	514,459	483,669	378,222	369,090
Storage batteries-SLI automotive			461,739	361,816	369,090
Storage batteries-industrial & traction			21,930	16,406	a
Terne metal-motor vehicles & equipment	1,644	4,165	5,023	3,164	4,577
Type metal-printing & allied industries	12,561	11,899	11,484	9,917	7,814
Other metal products (b)	29,297	31,960	13,328	11,581	6,202
Pigments Total	**99,982**	**101,018**	**100,079**	**86,454**	**72,370**
Paints			29,450	22,858	17,984
Glass & ceramic products			53,747	50,002	40,850
Other pigments (c)	99,982	101,018	16,882	13,594	13,536
Chemicals-Petroleum Refining	**233,039**	**196,578**	**206,072**	**140,989**	**122,760**
Miscellaneous Uses	**39,476**	**43,294**	**31,897**	**19,760**	**12,401**
Total	**1,582,338**	**1,579,327**	**1,497,308**	—	**1,026,099**
Estimated Undistributed Consumption	—	—	—	—	**214,289**
Grand Total (d)	**1,582,338**	**1,579,327**	**1,497,308**	**1,179,807**	**1,240,400**

Source: U.S. Bureau of Mines. Blank spaces indicate unavailable data.

(a) Included in SLI automotive oxide to avoid disclosing company confidential data. (b) Includes lead consumed in foil, collapsible tubes, annealing, galvanizing, plating, weights & ballast. (c) Totals include white lead, red lead, litharge, & colors; also lead content of leaded zinc oxide.(d) Data may not add to total because of rounding. (e) Withheld to avoid disclosing company confidential data, consumption included in 'Other metal products'. (f) Included in storage tanks to avoid disclosing company confidential data.

(w) Withheld to avoid disclosing company, proprietary data, consumption included in appropriate totals.

*In 1979, Bureau of Mines began reporting consumption on a basis of Standard Industrial Codes.

PRIMARY LEAD SMELTED AND REFINED IN THE UNITED STATES

Short Tons

	1976	1977	1978	1979	1980
Domestic Ore (a)	568,536	536,449	552,967	584,192	560,154
Foreign Ore and Base Bullion	84,341	68,389	70,030	50,310	43,461
Total (c)	652,877	604,838	622,997	634,502	603,615
Antimonial Lead (b)	6,743	7,557	5,518	3,750	971
Antimony Content	730	900	783	299	30

Source: U.S. Bureau of Mines
(a) Includes production resulting from zinc plant residues.
(b) A substantial portion derived from scrap.
(c) USBM considers refined lead to be only soft lead and accounts for antimonial or hard lead separately.

SECONDARY LEAD RECOVERED IN THE UNITED STATES

Short Tons

	1976	1977	1978r	1979r	1980r	1981p
As Refined Metal						
At Primary Plants	29	95	1,371	3,155	2,334	1,923
At Other Plants	310,981	334,069	310,124	385,102	345,090	348,077
Sub Total	311,010	334,164	311,495	388,257	347,424	350,000
In Antimonial Lead						
At Primary Plants	1,371	3,364	1,523	590	3	51
At Other Plants	340,596	419,248	450,325	416,999	338,060	311,783
Sub Total	341,967	422,612	451,848	417,589	338,063	311,834
In Other Alloys	73,592	78,326	84,594	77,511	59,210	60,500
GRAND TOTAL	726,569	835,102	847,937	883,357	744,697	722,334
From New Scrap	104,355	132,672	131,986	141,785	103,828	101,705
From Old Scrap	622,214	702,430	715,951	741,572	640,869	620,629

Source: U.S. Bureau of Mines
(r) Revised.
(p) Preliminary estimate.

STOCKS OF LEAD AT UNITED STATES SMELTERS

Short Tons

	1976	1977	1978	1979	1980
Stocks At End Of Period					
Ore, Matte, Scrap & In Process	157,412	164,627	170,404	115,695	148,871
Base Bullion	299	375	4	217	306
TOTAL	157,711	165,002	170,408	115,912	149,177

Source: American Bureau of Metal Statistics.

CONSUMERS' SECONDARY STOCKS OF LEAD IN THE UNITED STATES

Short Tons

	1976r	1977r	1978r	1979r	1980r	1981p
Refined Soft Lead	87,774	81,576	79,438	105,442	80,029	61,637
Antimonial Lead	34,106	43,262	48,961	54,220	49,406	40,847
Lead Alloys	6,000	7,351	8,338	8,098	8,654	5,015
Copper Base Scrap	1,730	1,617	1,310	1,109	1,038	608
TOTAL	129,610	133,806	138,047	168,869	139,127	108,107

Source: U.S. Bureau of Mines.
(p) Preliminary estimate.
(r) Revised.

UNITED STATES SHIPMENTS OF STORAGE BATTERY OXIDES

Total Weight Shipped, Short Tons

	1979	1980
Storage Battery Oxides Shipped		
JAN	15,314	11,450
FEB	12,469	7,671
MAR	14,412	6,619
APR	12,484	5,935
MAY	12,512	5,500
JUN	11,007	4,418
JUL	9,518	5,736
AUG	12,431	6,871
SEP	11,165	7,783
OCT	13,718	9,364
NOV	10,423	8,267
DEC	8,828	8,527
TOTAL	144,281	88,141

Source: American Bureau of Metal Statistics, Inc.

UNITED STATES IMPORTS AND EXPORTS OF LEAD

Short Tons

	1976	1977	1978	1979	1980
Imports					
Ores And Matte	76,365	73,341	58,403	44,089	48,606
Bullion Or Base Bullion	2,334	8,068	4,748	1,853	718
Pigs And Bars	141,433	255,646	243,956	211,273	90,096
Total	**220,132**	**337,055**	**307,107**	**257,215**	**139,420**
Reclaimed, Scrap, Dross, Etc.	4,413	6,769	6,187	7,366	7,199
Exports (includes re-exports)					
Lead Material (excluding scrap)	7,685	10,221	8,326	9,957	120,534
Scrap	46,883	85,411	108,723	131,998	131,820

Source: U.S. Bureau of Census.

AUSTRALIAN LEAD PRICES

F.O.B. Port Pirie Per Metric Tons — Prices Are Expressed In Australian Dollars

	1976	1977	1978	1979	1980
January	290.00	468.42	550.00	768.18	1,069.05
February	290.00	518.95	550.00	859.50	1,050.00
March	290.00	616.52	504.76	928.18	1,050.00
April	290.00	570.83	500.00	950.00	1,018.42
May	355.00	550.00	500.00	976.09	868.18
June	357.73(a)	550.00	500.00	1,118.75	759.52
July	375.00	509.52	500.00	1,150.00	732.61
August	400.00	500.00	517.39	1,150.00	700.00
September	400.00	500.00	568.10	1,050.00	720.45
October	400.00	500.00	668.18	1,123.91	750.00
November	404.55	550.00	700.00	1,150.00	722.50
December	450.00	550.00	700.00	1,150.00	678.57

Source: The Broken Hill Associated Smelters Proprietary Limited.
(a) As from June 1, 1976 prices apply to both 99.99% and 99.97% purity lead.

CANADIAN PIG LEAD PRICES

U.S. Cents Per Pound

	1976	1977	1978	1979	1980
January	18.381	26.231	32.011	39.193	49.790
February	18.621	27.680	31.672	41.317	49.331
March	19.911	29.075	31.310	44.685	48.352
April	21.035	29.482	30.876	47.543	44.444
May	23.082	29.790	30.781	47.987	36.910
June	23.623	30.492	30.531	52.640	34.486
July	24.392	30.389	30.455	56.707	35.620
August	24.611	30.002	30.977	56.381	40.276
September	24.871	30.047	31.552	56.863	41.357
October	25.896	29.351	34.986	60.410	44.052
November	25.872	30.219	35.802	55.101	42.817
December	25.042	31.668	35.600	54.769	38.657

Source: Cominco Ltd., Producers' prices for carload quantities.

LONDON METAL EXCHANGE LEAD PRICES

U.S. Cents Per Pound

	1976	1977	1978	1979	1980
January	15.239	25.313	30.033	44.967	50.663
February	15.798	29.323	26.423	47.791	52.926
March	17.361	31.868	26.345	53.318	50.718
April	22.113	29.398	25.957	52.601	43.884
May	21.848	29.934	24.652	56.158	35.493
June	21.596	25.704	25.839	62.627	33.442
July	23.115	25.427	26.390	57.644	36.736
August	21.829	24.950	28.964	54.962	38.652
September	21.753	26.389	31.410	55.771	40.007
October	21.051	27.878	37.632	59.768	39.502
November	20.805	28.707	36.474	55.492	36.893
December	21.658	31.059	38.929	53.334	33.684

Source: Metal Bulletin.

UNITED STATES PRODUCER LEAD PRICES

U.S. Cents Per Pound

	1976	1977	1978	1979	1980	1981
January	19.000	26.865	33.000	40.760	49.879	38.966
February	19.000	28.692	33.000	43.632	49.559	30.422
March	20.216	31.000	33.000	45.749	49.233	35.056
April	21.933	31.000	33.000	48.000	44.015	37.519
May	22.882	31.000	31.000	48.805	36.002	36.413
June	23.000	31.000	31.000	56.510	34.190	37.973
July	24.245	31.000	31.000	58.066	35.604	40.985
August	24.757	31.000	32.168	57.913	40.962	43.890
September	24.830	31.000	34.059	58.004	42.259	40.323
October	25.745	31.023	36.610	61.057	45.000	37.049
November	25.789	32.000	38.000	57.262	43.806	33.075
December	25.818	32.854	38.000	55.947	38.966	31.071

Source: Metals Week.

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PASSENGER CAR AND TRUCK SHARES OF TOTAL VEHICLE PRODUCTION

Average for 1978-1981

WORLD MOTOR VEHICLE PRODUCTION 1978-1981 (Millions of Units)

1978

Passenger Cars Produced:	31.3 M	74%
Trucks, Buses Produced:	11.1 M	26%
TOTAL	42.4 M	100%

1979

Passenger Cars Produced:	30.8 M	74%
Trucks, Buses Produced:	10.8 M	26%
TOTAL	41.6 M	100%

1980

Passenger Cars Produced:	28.4 M	74%
Trucks, Buses Produced:	10.0 M	26%
TOTAL	38.4 M	100%

1981

Passenger Cars Produced:	27.5 M	74%
Trucks, Buses Produced:	9.7 M	26%
TOTAL	37.2 M	100%

Source: Motor Vehicles Manufacturers Association of the United States, compiled from various sources. Figures rounded.

WORLD MOTOR VEHICLE PRODUCTION

Millions of Units

COUNTRY		1978	1979	1980	1981
Argentina	TOTAL (M)	.18	.25	.28	.17
	%Cars	72%	76%	79%	82%
	%Trucks, Buses	28%	24%	21%	18%
Australia	TOTAL (M)	.39	.46	.37	.39
	%Cars	82%	87%	86%	90%
	%Trucks, Buses	18%	13%	14%	10%
Austria	TOTAL (M)	.06	.09	.16	.02
	%Cars	0%	33%	44%	47%
	%Trucks, Buses	100%	67%	56%	53%
Belgium	TOTAL (M)	.30	.31	.02	.26
	%Cars	88%	87%	85%	85%
	%Trucks, Buses	12%	13%	15%	15%
Brazil	TOTAL (M)	1.06	1.13	1.17	.78
	%Cars	50%	44%	52%	53%
	%Trucks, Buses	50%	56%	48%	47%
Canada	TOTAL (M)	1.82	1.63	1.37	1.32
	%Cars	61%	63%	61%	62%
	%Trucks, Buses	39%	37%	39%	38%
Czechoslovakia	TOTAL (M)	.22	.23	.23	.23
	%Cars	82%	78%	78%	78%
	%Trucks, Buses	18%	22%	22%	22%
France	TOTAL (M)	3.51	3.61	3.38	3.02
	%Cars	89%	89%	87%	86%
	%Trucks, Buses	11%	11%	13%	14%
East Germany	TOTAL (M)	.21	.21	.22	.22
	%Cars	81%	81%	82%	82%
	%Trucks, Buses	19%	19%	18%	18%
West Germany	TOTAL (M)	4.19	4.25	3.89*	3.90*
	%Cars*	93%	92%	90%	92%
	%Trucks, Buses	7%	8%	10%	8%
Hungary	TOTAL (M)	.02	.01	.02	.01
	%Cars	0%	0%	0%	0%
	%Trucks, Buses	100%	100%	100%	100%
India	TOTAL (M)	.10	.10	.11	.15
	%Cars	30%	29%	27%	27%
	%Trucks, Buses	70%	71%	73%	73%
Italy	TOTAL (M)	1.66	1.63	1.61	1.43
	%Cars	91%	91%	90%	88%
	%Trucks, Buses	9%	9%	10%	12%

*Includes Micro Buses.

WORLD MOTOR VEHICLE PRODUCTION Cont.

COUNTRY		1978	1979	1980	1981
Japan	TOTAL (M)	9.30	9.64	11.04	11.18
	%Cars	64%	64%	63%	62%
	%Trucks, Buses	36%	36%	37%	38%
Korea	TOTAL (M)			.12	.13
	%Cars	Not Available	Not Available	41%	46%
	%Trucks, Buses			59%	54%
Mexico	TOTAL (M)	.38	.44	.49	.60
	%Cars	63%	63%	61%	58%
	%Trucks, Buses	37%	37%	39%	42%
Netherlands	TOTAL (M)	.08	.11	.10	.09
	%Cars	75%	81%	80%	88%
	%Trucks, Buses	25%	19%	20%	12%
Poland	TOTAL (M)	.42	.43	.42	.29
	%Cars	80%	83%	83%	82%
	%Trucks, Buses	20%	17%	17%	18%
Portugal	TOTAL (M)	.0006	.0003	.0002	.0001
	%Cars	0%	0%	0%	0%
	%Trucks, Buses	100%	100%	100%	100%
Romania	TOTAL (M)	.12	.12	.13	.13
	%Cars	58%	58%	61%	61%
	%Trucks, Buses	42%	42%	39%	39%
Spain	TOTAL (M)	1.14	1.12	1.18	.99
	%Cars	86%	86%	87%	86%
	%Trucks, Buses	14%	14%	13%	14%
Sweden	TOTAL (M)	.31	.35	.30	.31
	%Cars	83%	85%	80%	83%
	%Trucks, Buses	17%	15%	20%	17%
Switzerland	TOTAL (M)	.001	.001	.001	.001
	%Cars	10%	0%	0%	0%
	%Trucks, Buses	90%	100%	100%	100%
United Kingdom	TOTAL (M)	1.60	1.48	1.31	1.18
	%Cars	76%	72%	70%	80%
	%Trucks, Buses	24%	28%	30%	20%
United States	TOTAL (M)	12.90	11.48	8.00	7.94
	%Cars	70%	73%	79%	78%
	%Trucks, Buses	30%	27%	21%	22%
USSR	TOTAL (M)	2.15	2.17	2.20	2.19
	%Cars	60%	60%	51%	60%
	%Trucks, Buses	40%	40%	49%	40%
Yugoslavia	TOTAL (M)	.28	.32	.28	.29
	%Cars	89%	90%	92%	89%
	%Trucks, Buses	11%	10%	8%	11%
TOTAL WORLD		42.40M	41.57M	38.40M	37.22M

Source: Compiled by Motor Vehicle Mfgers. Assoc. of U.S. Inc. from various sources.
Figures rounded.
Note: As far as can be determined, this table refers to vehicles locally manufactured.

VEHICLES IN USE IN THE U.S.

Millions of Units

*1947	33.5
1948	36.6
1949	39.8
1950	43.5
1951	46.6
1952	48.2
1953	50.9
1954	53.2
1955	56.5
1956	59.3
1957	61.2
1958	62.5
1959	65.6
1960	67.9
1961	69.9
1962	72.4
1963	75.4
1964	78.5
1965	82.1
1966	85.6
1967	88.0
1968	91.0
1969	95.1
1970	98.1
1971	101.6
1972	106.2
1973	111.2
1974	115.9
1975	120.1
1976	124.4
1977	128.1
1978	133.5
1979	137.3
1980	139.8
1981	141.9

Source: R.L. Polk & Company. Further reproduction prohibited.
*As of July 1 each year.
Figures rounded.

UNITED STATES
MOTOR VEHICLE REGISTRATIONS (In Millions)

	1978	1979	1980	1981*
ALABAMA	2.78	2.92	3.01	3.10
ALASKA	.26	.26	.26	.27
ARIZONA	1.66	1.85	2.00	2.15
ARKANSAS	1.46	1.54	1.61	1.67
CALIFORNIA	15.58	16.99	17.62	18.51
COLORADO	2.53	2.47	2.46	2.49
CONNECTICUT	2.18	2.28	2.22	2.26
DELAWARE	.39	.40	.41	.41
D.C.	.24	.25	.27	.32
FLORIDA	6.92	7.52	7.83	8.10
GEORGIA	3.66	3.85	3.93	3.96
HAWAII	.53	.57	.58	.59
IDAHO	.76	.83	.89	.92
ILLINOIS	7.09	7.56	7.78	7.97
INDIANA	3.74	3.96	4.01	4.05
IOWA	2.32	2.56	2.55	2.56
KANSAS	1.93	2.07	2.11	2.15
KENTUCKY	2.54	2.67	2.66	2.67
LOUISIANA	2.56	2.75	2.86	2.94
MAINE	.71	.76	.77	.79
MARYLAND	2.70	2.84	2.88	2.94
MASSACHUSETTS	3.64	3.82	3.85	3.92
MICHIGAN	6.25	6.59	6.74	6.84
MINNESOTA	2.68	3.18	3.26	3.31
MISSISSIPPI	1.57	1.51	1.61	1.67
MISSOURI	3.16	3.34	3.38	3.41

	1978	1979	1980	1981*
MONTANA	.83	.70	.71	.76
NEBRASKA	1.21	1.28	1.34	1.37
NEVADA	.59	.66	.75	.71
NEW HAMPSHIRE	.65	.69	.75	.77
NEW JERSEY	4.55	4.82	4.87	4.98
NEW MEXICO	.99	1.08	1.12	1.15
NEW YORK	7.87	8.17	8.20	8.20
NORTH CAROLINA	4.30	4.56	4.65	4.74
NORTH DAKOTA	.60	.64	.66	.67
OHIO	7.91	7.96	8.05	8.27
OKLAHOMA	2.44	2.72	2.81	2.86
OREGON	1.92	2.09	2.17	2.22
PENNSYLVANIA	6.71	6.97	7.14	7.35
RHODE ISLAND	.65	.61	.65	.67
SOUTH CAROLINA	1.92	2.01	2.03	2.06
SOUTH DAKOTA	.58	.63	.64	.65
TENNESSEE	2.91	3.08	3.36	3.42
TEXAS	10.15	10.29	10.79	11.12
UTAH	.96	1.05	1.06	1.07
VERMONT	.36	.37	.37	.39
VIRGINIA	3.44	3.59	3.71	3.80
WASHINGTON	2.96	3.26	3.37	3.46
WEST VIRGINIA	1.17	1.30	1.36	1.43
WISCONSIN	2.83	2.93	3.12	3.19
WYOMING	.41	.48	.49	.50

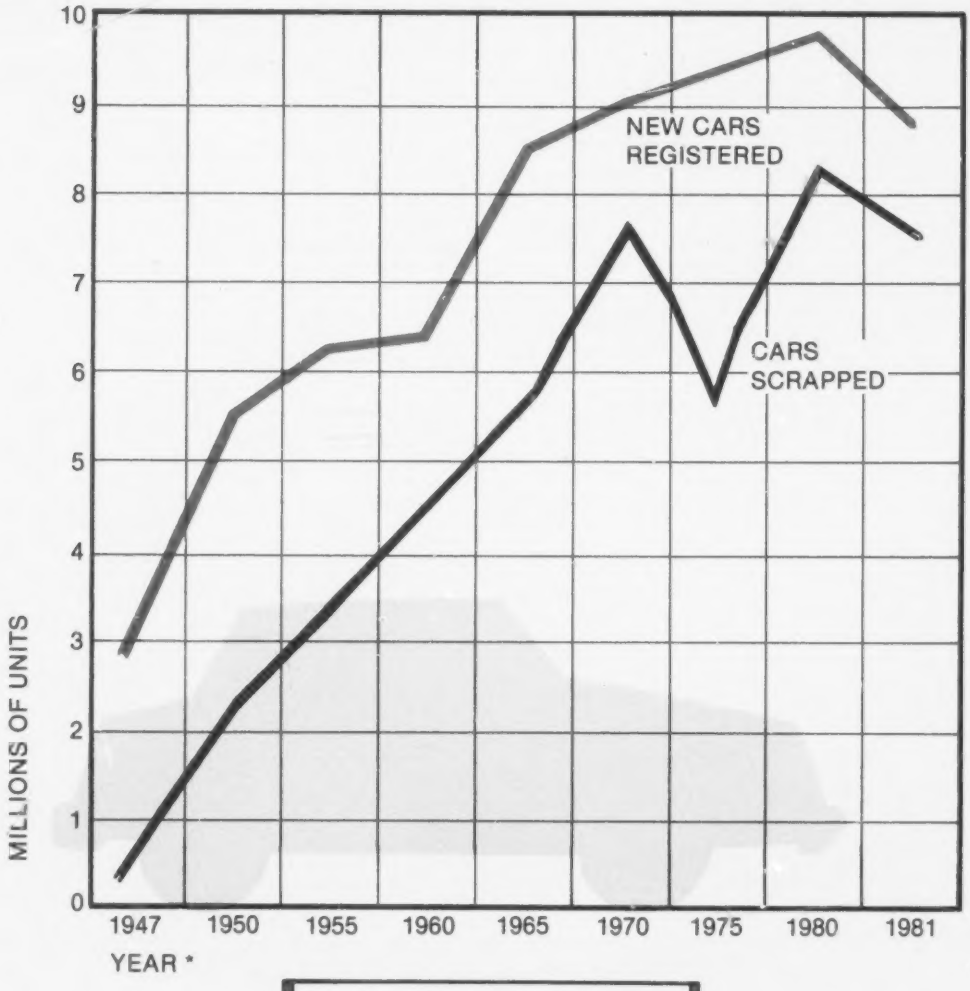
Source: U.S. Federal Highway Administration

Note: 1978 — Auto, Trucks, Buses 1979, 1980, 1981 — Autos, Trucks, Buses, and Motorcycles

*Preliminary.

Registrations include both privately and publicly-owned vehicles..

PASSENGER CAR GROWTH IN THE UNITED STATES



Growth of Cars In Use	
1947	9.5%
1950	9.8%
1955	6.7%
1960	3.1%
1965	4.4%
1970	2.5%
1975	2.8%
1980	1.2%
1981	1.2%

Source: R.L. Polk & Co. Further reproduction prohibited.
*As of July 1 each year.

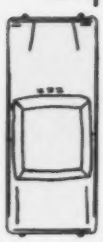
UNITED STATES — NEW CAR REGISTRATIONS

Millions of Units

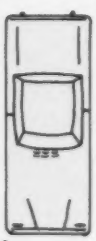
1946	2.9	1964	8.6
1947	3.3	1965	9.2
1948	4.0	1966	8.7
1949	5.5	1967	8.6
1950	6.3	1968	9.5
1951	4.4	1969	9.4
1952	4.9	1970	8.7
1953	5.7	1971	10.2
1954	6.2	1972	11.4
1955	6.7	1973	10.0
1956	5.9	1974	8.3
1957	5.3	1975	9.4
1958	5.6	1976	10.3
1959	6.4	1977	11.0
1960	6.0	1978	11.0
1961	6.4	1979	9.6
1962	7.3	1980	8.8
1963	7.9		

Source: R.L. Polk & Co. Further reproduction prohibited.
Note: Adjustments for absence of Oklahoma and other states have been made where applicable.
As of July 1 each year.

UNITED STATES
NEW CAR REGISTRATIONS (000's)

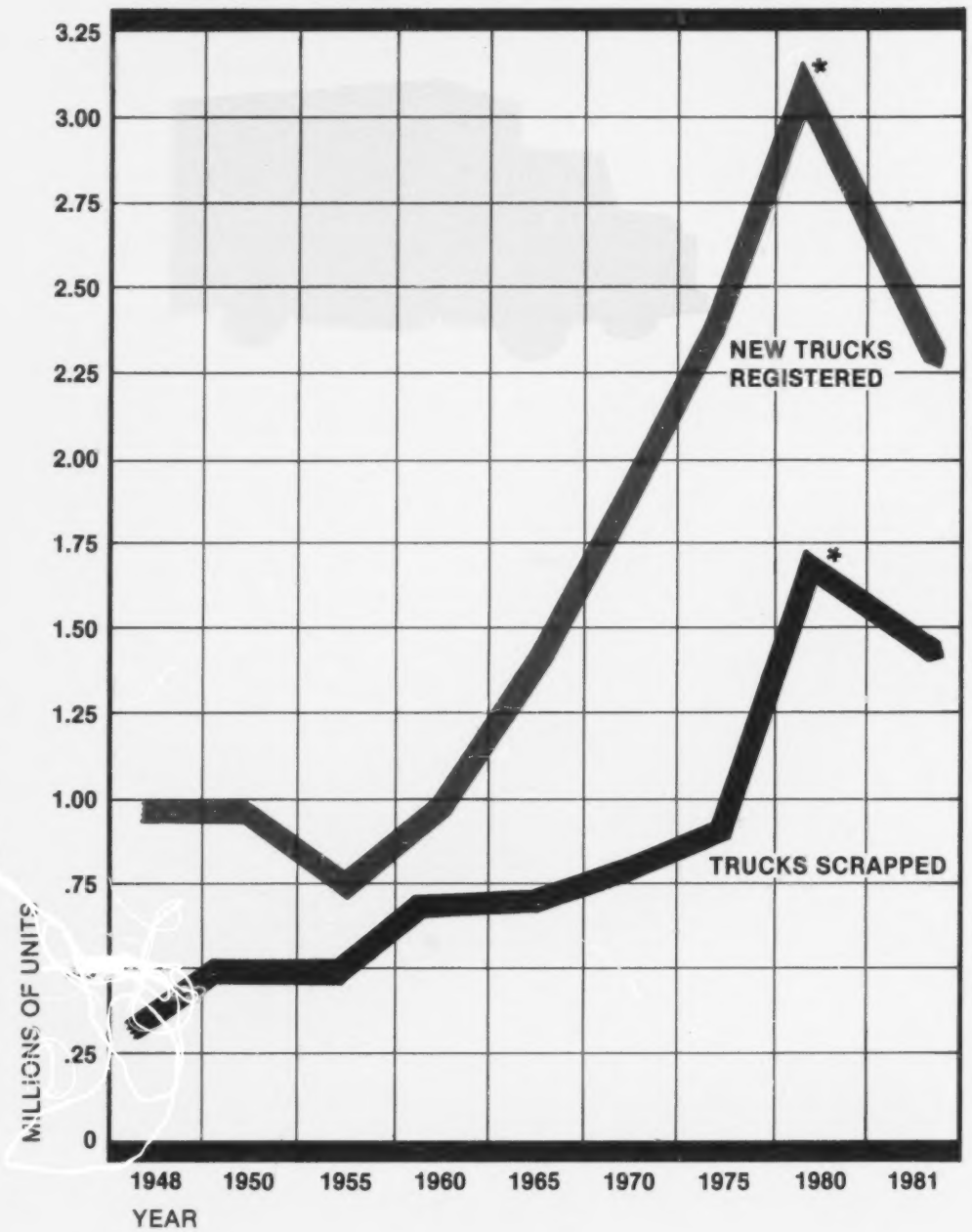


	1980	1981*
Alabama	124.1	112.1
Alaska	12.6	16.7
Arizona	98.9	89.4
Arkansas	72.1	73.5
California	902.5	846.2
Colorado	117.8	116.0
Connecticut	133.6	127.0
Delaware	31.8	30.9
District of Columbia	16.8	18.0
Florida	477.8	505.8
Georgia	210.2	193.3
Hawaii	37.1	39.2
Idaho	27.0	29.8
Illinois	494.1	454.0
Indiana	193.8	180.6
Iowa	97.1	94.4
Kansas	90.7	81.0
Kentucky	85.6	105.5
Louisiana	164.4	162.6
Maine	34.1	43.6
Maryland	216.3	214.9
Massachusetts	215.8	222.3
Michigan	450.0	445.8
Minnesota	191.7	177.3
Mississippi	69.6	64.1
Missouri	176.0	165.8
Montana	25.4	25.1
Nebraska	55.1	49.7
Nevada	36.9	34.6
New Hampshire	59.6	58.2
New Jersey	365.4	320.0
New Mexico	43.8	43.2
New York	605.5	578.2
North Carolina	201.2	191.6
North Dakota	23.0	23.9
Ohio	438.6	393.9
Oklahoma*	NA	NA
Oregon	101.5	92.3
Pennsylvania	467.9	425.1
Rhode Island	33.7	29.9
South Carolina	108.9	98.3
South Dakota	20.1	19.6
Tennessee	149.2	138.0
Texas	607.8	645.4
Utah	34.9	52.6
Vermont	23.6	24.4
Virginia	205.5	207.8
Washington	140.3	124.8
West Virginia	63.1	63.0
Wisconsin	171.4	157.6
Wyoming	19.4	18.3
Federal Government	18.1	18.9
TOTAL	8,761.4	8,444.2



Source: R.L. Polk & Co. Further reproduction prohibited.
*As of July 1 each year.
Figures rounded. NA-not available.

TRUCK GROWTH IN THE UNITED STATES



Growth of Trucks in Use	
1948	11.3%
1950	6.9%
1955	4.1%
1960	2.6%
1965	5.5%
1970	6.6%
1975	6.4%
1980	4.1%
1981	2.3%

Source: R.L. Polk & Co. Further reproduction prohibited.
*Includes window vans transferred from passenger car to truck category.
As of July 1 each year.

UNITED STATES — NEW TRUCK REGISTRATIONS

Millions of Units

1946	.8	1964	1.4
1947	1.0	1965	1.6
1948	1.0	1966	1.6
1949	1.0	1967	1.6
1950	1.2	1968	1.9
1951	.9	1969	1.9
1952	.9	1970	1.8
1953	.9	1971	2.4
1954	.8	1972	2.9
1955	1.0	1973	3.0
1956	.9	1974	2.4
1957	.8	1975	2.8
1958	.9	1976	3.3
1959	1.0	1977	3.8
1960	.9	1978	3.9
1961	1.0	1979	3.1
1962	1.2	1980	2.3
1963	1.3		

Source: R.L. Polk & Co. Further reproduction prohibited.
Note: Adjustments for absence of Oklahoma and other states have been made where applicable.
As of July 1 each year.

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Battery Council International

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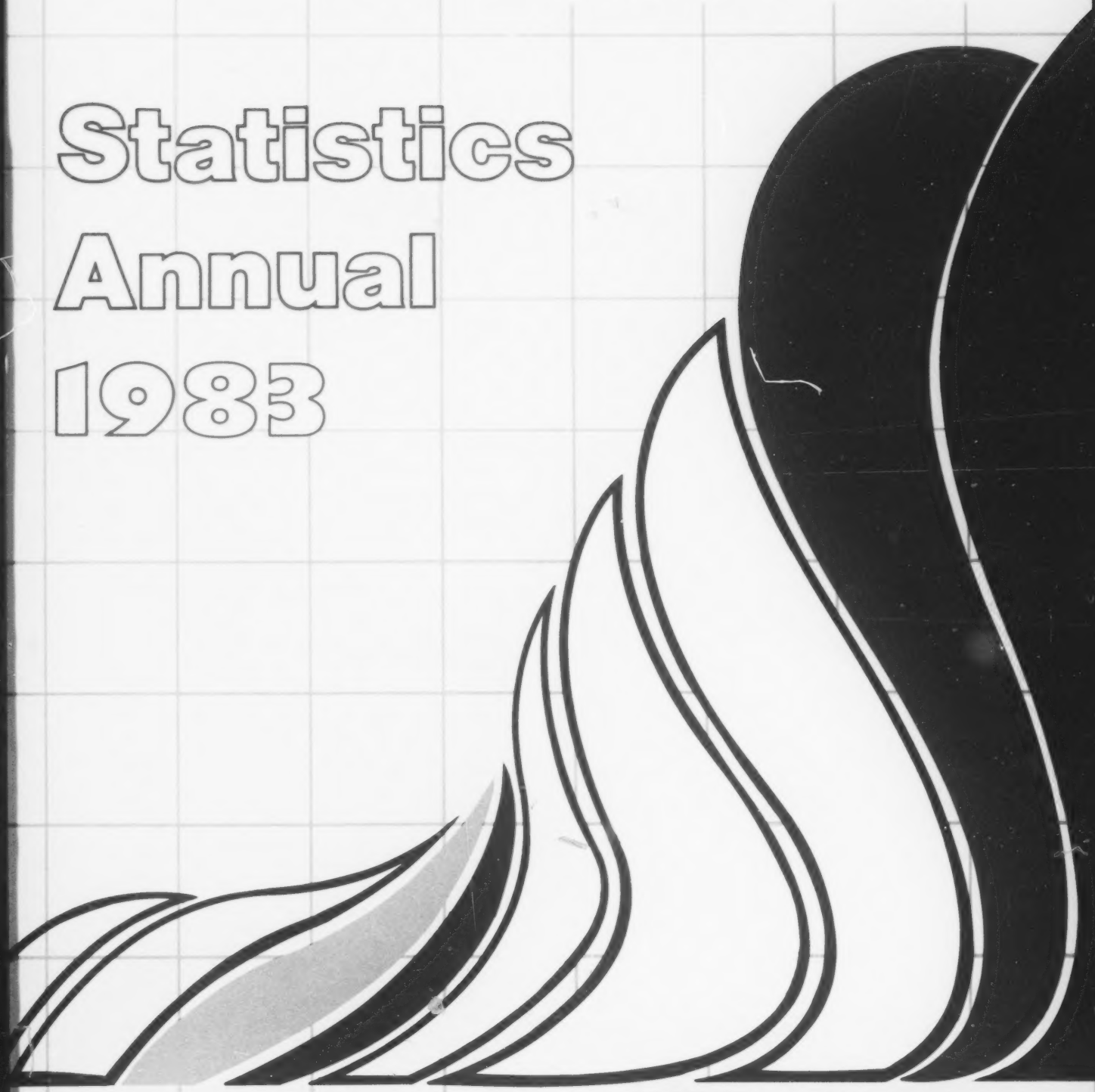

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Compiled and edited by the
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1983

BATTERY COUNCIL INTERNATIONAL STATISTICS ANNUAL

111 East Wacker Drive Chicago, Illinois 60601

The 1983 Statistics Annual

Battery Council International is pleased to release the second consecutive manual devoted entirely to battery industry information.

Please note that the **1983 ANNUAL** contains some additional data worthy of special mention. This year we were fortunate to receive battery statistics from Western Europe and Mexico. These figures enhance the International Section of our book and serve as a communication link between our association's international and domestic members.

This year's publication closely follows the format of the 1982 book. The first portion is devoted to BCI-generated statistics and the remaining sections address the international, lead , and automotive markets. You will find this updated volume of battery statistics informative and capable of spurring your interest in our industry's performance.

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1982

THE YEAR IN REVIEW

The Battery Industry

- Total manufacturer shipments of S.L.I. batteries were 1.4 percent below 1981 and 11.7 percent below 1978. Factory shipments experienced a real decrease of 900,000 batteries in 1982, falling to 64.6 million units.

- Replacement battery shipments increased for the second consecutive year in 1982, up 1.1 percent over 1981. Replacement batteries shipped reached 54.2 million and accounted for 83.9 percent of the industry's total shipment figure.

- Quarterly replacement shipments exhibited seasonal fluctuations identical to those experienced for the past decade, with third and fourth quarter unit performance typically stronger. However, third quarter sales were 7.8 percent below 1981 third quarter sales. The first, second, and fourth quarter performances all posted increases over 1981 sales for these quarters.

- Original equipment battery sales were responsible for the decline in the industry's 1982 performance in terms of total batteries shipped. Unit original equipment sales dropped 16 percent to 8.4 million. The original equipment share of total battery shipments decreased to 13 percent from 16.3 percent in 1980.

- In 1982 exports of 12 volt and 6 volt S.L.I. batteries climbed to 2 million. This 5.3 percent jump marks the third straight year that exports have increased.

- S.L.I. replacement shipments to the various channels of distribution reinforced trends experienced in the past few years. Shipments to battery specialists continued to increase in 1982. Battery specialists received nearly 30 percent of domestic shipments. In 1982, manufacturer sales to mass merchandisers also continued to rise. Expanded shipments to department stores pushed this channel's share to 21.6 percent.

- Nearly 100 percent of the battery sales to mass merchandisers were under private brand names again in 1982. Private brand labels accounted for slightly higher shipment percentages for vehicle and equipment manufacturers and for battery specialists. Eighty-nine percent of the units shipped to vehicle and equipment manufacturers were under private label in 1982, and 76 percent of the batteries routed to battery specialists were private brand batteries.

The Automotive Market

- World motor vehicle production declined 2.7 percent in 1982, totaling 36.2 million units. Both passenger car and truck production levels fell; 2.2 percent and 4.1 percent respectively. Nations that did experience an increase in 1982 vehicle production despite the global performance included: Argentina, Australia, Belgium, Brazil, France, West Germany, Italy, Korea, Netherlands, Spain, Sweden, and Russia.

- Although U.S. vehicle production declined and domestic sales fell to an annual rate of 7.75 million in spring and summer, the number of vehicles in use increased to 143.9 million. Growth of cars in use rose 1.0 percent while trucks in use increased 2.5 percent.

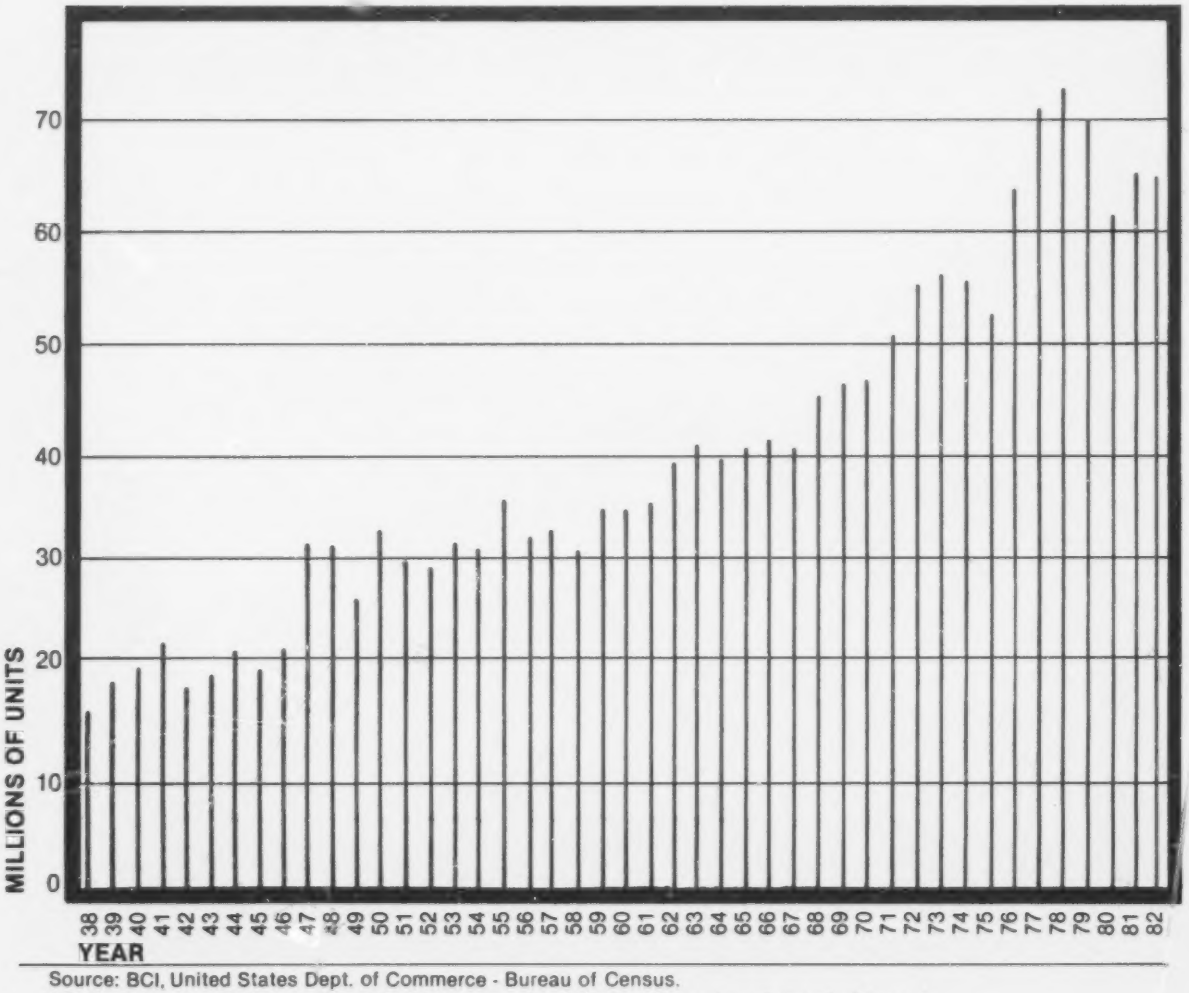
- Ending June 30, 1982, 8.4 million cars and trucks were scrapped compared to 9 million that failed to be re-registered the previous year. Of those 1982 vehicles scrapped, 6.9 million were automobiles representing 6.5 percent of the total U.S. car population.

- The nation's auto population is the oldest it has been since the mid-1950's. More than 6.8 million cars presently in use are 15 years old or older. The medium age of the U.S. car population has increased from 4.9 years in 1970 to 6.2 years as of June 30, 1982.

U.S. TOTAL SHIPMENTS* OF S.L.I. BATTERIES

MILLIONS OF UNITS

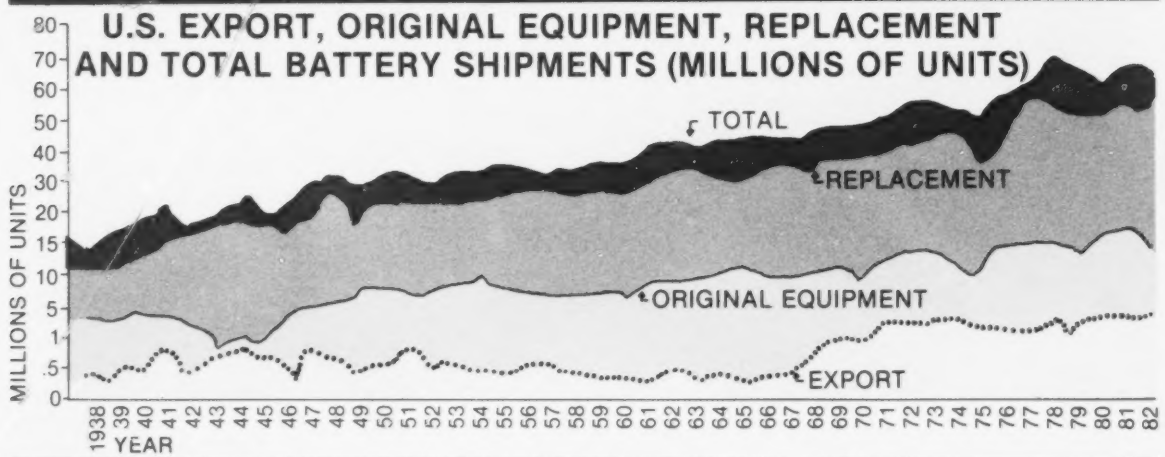
1938	14.5	**1947**	31.2	**1956**	32.3	**1965**	40.8	**1974**	55.6
1939	17.4	**1948**	31.0	**1957**	33.4	**1966**	41.6	**1975**	52.9
1940	19.3	**1949**	26.2	**1958**	30.6	**1967**	40.2	**1976**	64.1
1941	21.4	**1950**	32.9	**1959**	34.4	**1968**	45.0	**1977**	70.7
1942	16.5	**1951**	29.7	**1960**	34.4	**1969**	46.4	**1978**	73.2
1943	18.1	**1952**	28.4	**1961**	35.2	**1970**	46.9	**1979**	69.3
1944	20.4	**1953**	31.3	**1962**	39.0	**1971**	50.6	**1980**	61.7
1945	19.0	**1954**	30.8	**1963**	41.0	**1972**	55.5	**1981**	65.5
1946	21.0	**1955**	35.4	**1964**	39.1	**1973**	57.1	**1982**	64.6



Source: BCI, United States Dept. of Commerce - Bureau of Census.
*Shipments represent sum of rounded replacement, original equipment, and export shipments.

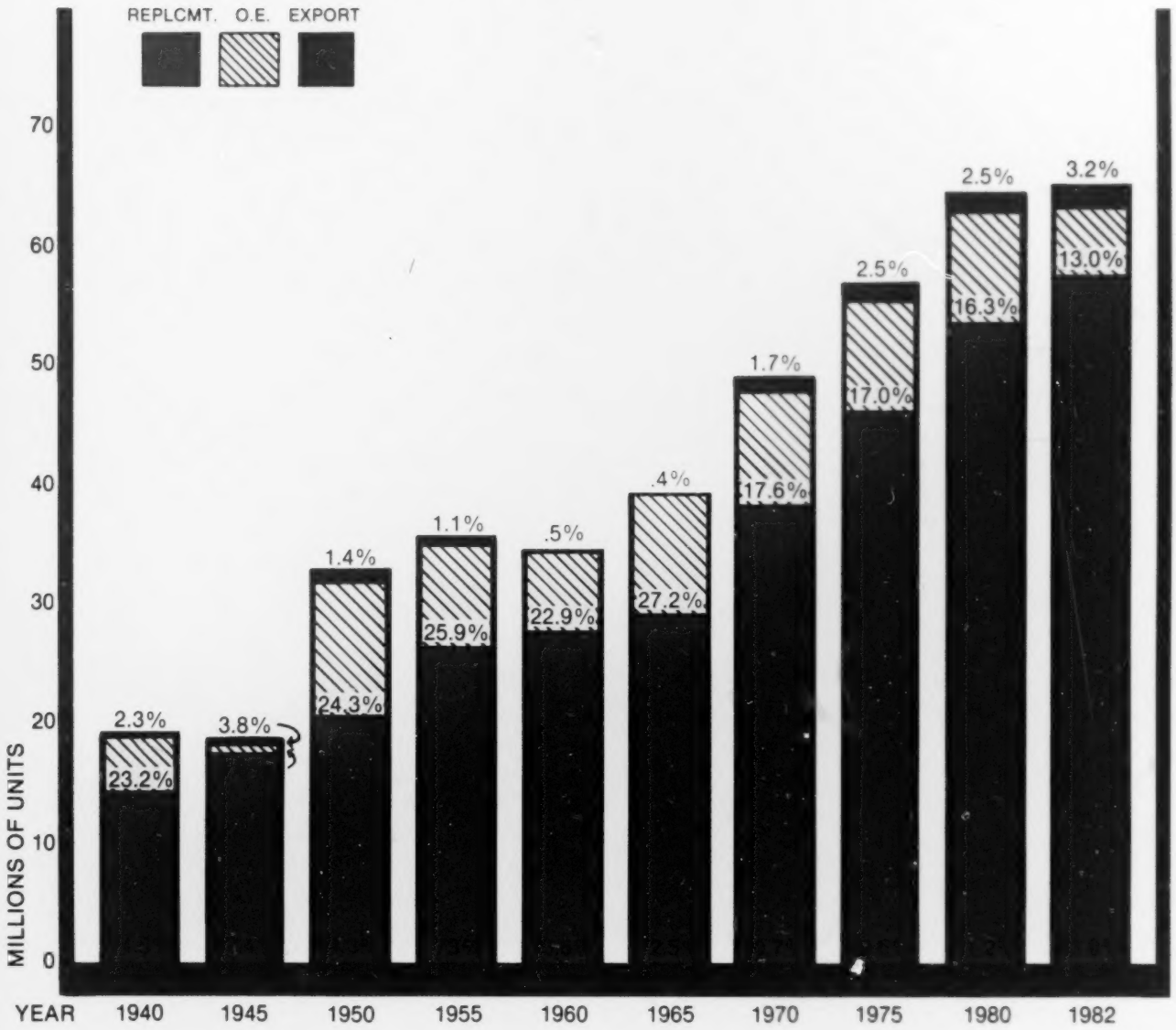
BREAKDOWN OF U.S. BATTERY SHIPMENTS (1938-82)

YEAR	REPLACEMENT	ORIGINAL EQUIPMENT	EXPORT 12V, 6V	YEAR	REPLACEMENT	ORIGINAL EQUIPMENT	EXPORT 12V, 6V
	MILLIONS OF UNITS			1960	26.3	7.9	.2
1938	11.7	2.5	.3	1961	28.3	6.7	.2
1939	13.4	3.6	.4	1962	30.5	8.2	.3
1940	14.3	4.5	.5	1963	31.7	9.1	.2
1941	15.9	4.8	.7	1964	29.6	9.3	.2
1942	15.2	1.0	.3	1965	29.5	11.1	.2
1943	17.0	.7	.4	1966	31.1	10.3	.2
1944	19.1	.7	.6	1967	31.0	9.0	.2
1945	17.6	.7	.7	1968	33.8	10.7	.5
1946	17.5	3.1	.4	1969	35.5	10.1	.8
1947	25.8	4.8	.6	1970	37.9	8.2	.8
1948	25.1	5.3	.6	1971	39.1	10.6	.9
1949	19.4	6.3	.5	1972	43.2	11.3	1.0
1950	24.4	8.0	.5	1973	43.5	12.6	1.0
1951	22.2	6.8	.7	1974	44.4	10.1	1.1
1952	22.5	5.5	.4	1975	42.6	9.0	1.3
1953	23.6	7.3	.4	1976	49.2	13.4	1.5
1954	23.8	6.6	.4	1977	54.6	14.7	1.4
1955	25.8	9.2	.4	1978	56.4	15.2	1.6
1956	25.0	6.9	.4	1979	53.7	14.4	1.2
1957	25.9	7.2	.3	1980	50.1	10.0	1.6
1958	25.3	5.1	.2	1981	53.6	10.0	1.9
1959	27.5	6.7	.2	1982	54.2	8.4	2.0

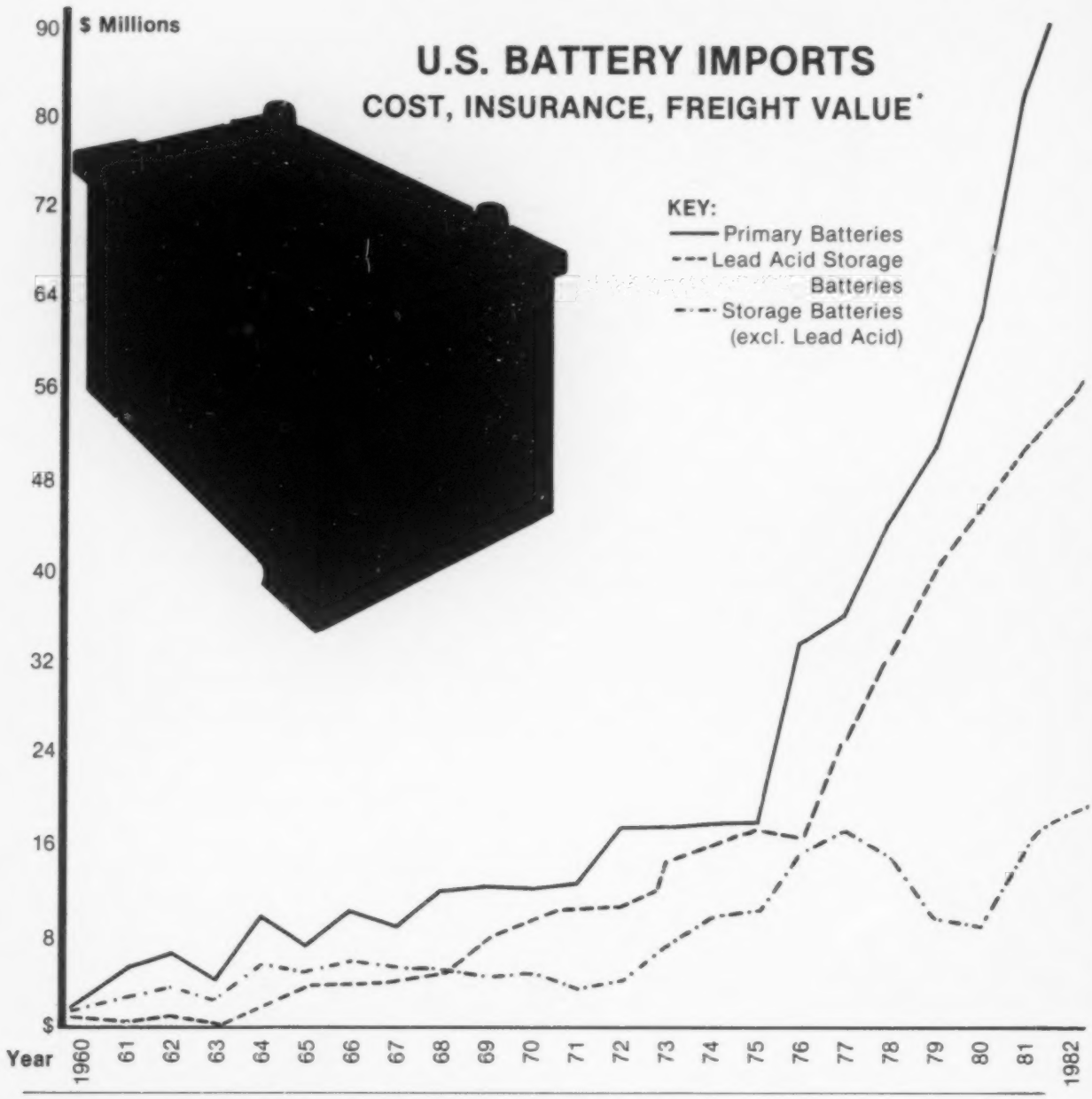


Sources: BCI, United States Dept. of Commerce - Bureau of Census
Shipment figures rounded.

SHARES OF TOTAL U.S. BATTERY SHIPMENTS
REPLACEMENT, ORIGINAL EQUIPMENT, EXPORT



Sources: BCI, United States Dept. of Commerce - Bureau of Census



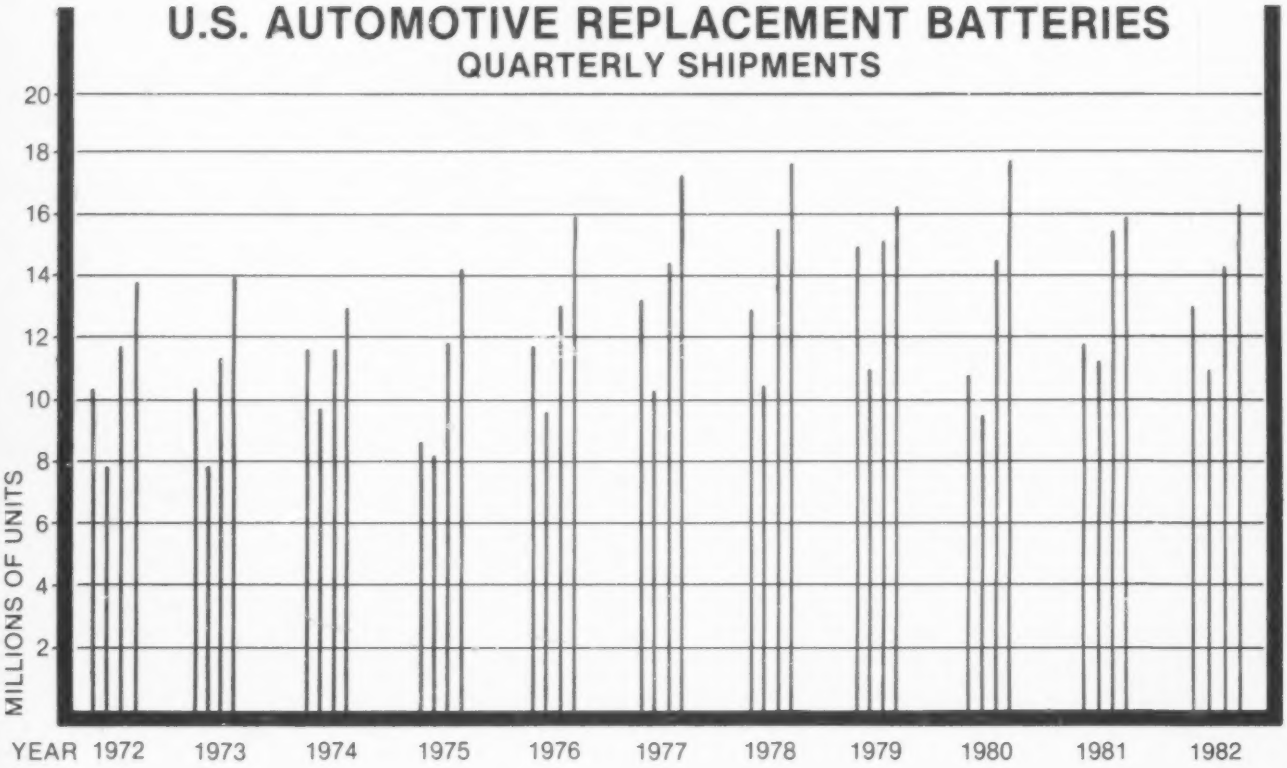
Source: United States Department of Commerce
Bureau of the Census

FT 135, U.S. General Imports and Imports for Consumption, Schedule A.

* Cost, Insurance Freight Value represents the value of imports at the first port of entry in the U.S. CIF values are based on the purchase price and include all freight, insurance, and other charges (excl. U.S. import duties) incurred in bringing the merchandise from the country of exportation to the first port of entry in the U.S.

$-Current value of dollar for each year; not constant dollars.

U.S. AUTOMOTIVE REPLACEMENT BATTERIES
QUARTERLY SHIPMENTS



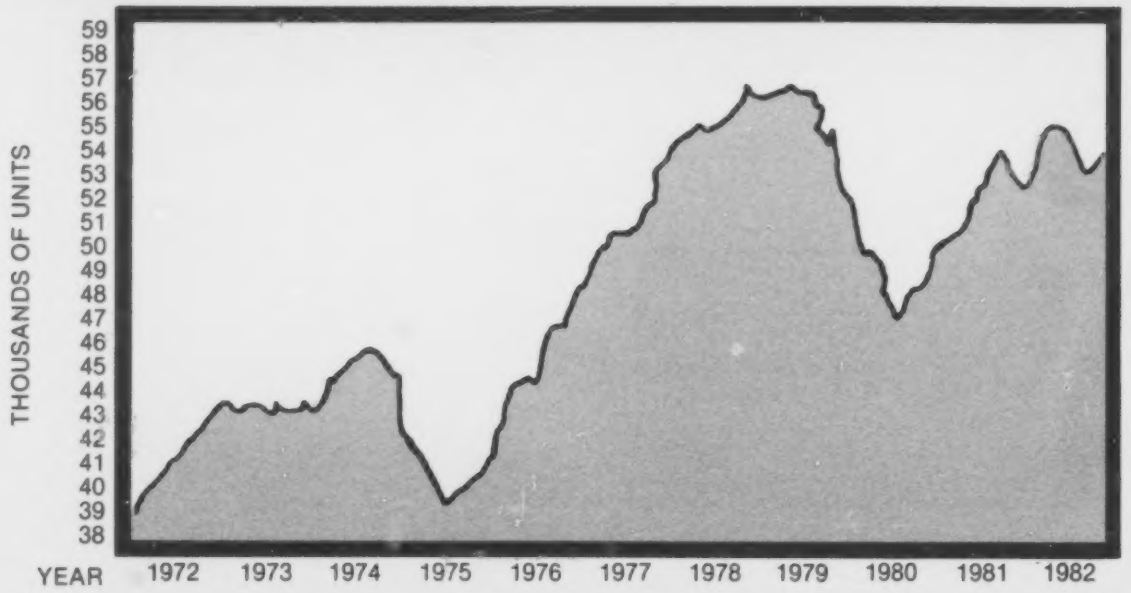
	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
	MILLIONS OF UNITS										
1st QTR	10.3	10.2	11.3	8.6	11.2	13.1	12.9	13.7	10.3	11.7	13.0
2nd QTR	7.6	7.9	9.2	8.1	9.4	10.0	10.5	10.6	8.8	10.6	10.8
3rd QTR	11.8	11.6	11.3	11.8	12.7	14.3	15.1	13.7	13.8	15.4	14.2
4th QTR	13.5	13.8	12.6	14.1	15.9	17.2	17.9	15.7	17.2	15.9	16.2
YEARLY TOTAL	43.2	43.5	44.4	42.6	49.2	54.6	56.4	53.7	50.1	53.6	54.2

Source: BCI

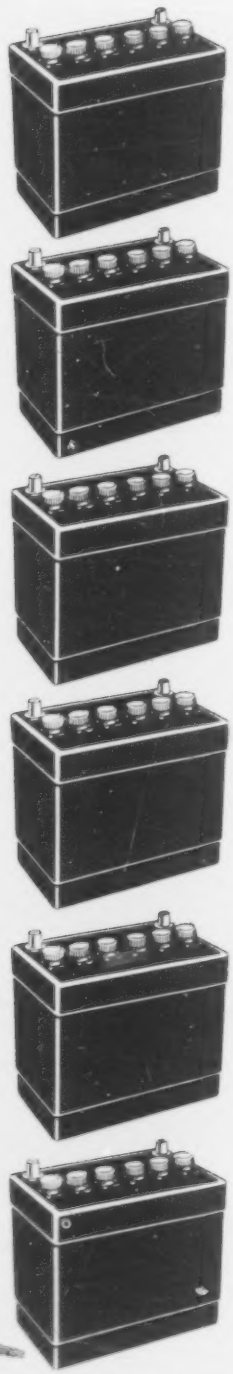
U.S. SHIPMENTS OF AUTOMOTIVE REPLACEMENT BATTERIES — 12 MONTH MOVING TOTALS

Thousands of Units

MONTH / YEAR	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
JAN	39,467.2	43,642.8	43,855.9	42,882.9	43,771.8	49,818.6	54,128.9	57,043.0	52,240.6	51,024.9	53,674.7
FEB	40,228.0	43,096.9	44,355.1	41,985.4	44,698.8	50,495.2	54,318.8	57,066.1	51,207.2	51,352.1	54,395.7
MAR	40,537.9	43,108.6	44,587.8	41,675.2	45,260.0	51,121.4	54,347.1	57,158.8	50,335.9	51,486.4	54,903.4
APR	40,843.8	43,362.8	45,004.5	41,536.7	45,468.8	51,314.3	54,450.6	57,204.2	50,018.0	51,932.5	55,054.3
MAY	41,209.3	43,436.6	45,516.0	41,085.5	45,658.9	51,737.9	54,601.5	57,107.5	49,424.1	52,655.4	55,150.2
JUN	41,475.0	43,449.4	45,952.9	40,507.3	46,517.6	51,726.8	54,783.7	57,242.3	48,642.6	53,264.8	55,132.1
JUL	41,804.3	43,187.0	46,024.6	40,621.4	46,939.7	51,754.2	54,936.4	57,182.2	48,524.0	53,776.8	54,724.3
AUG	42,285.0	43,220.3	46,659.0	40,734.6	47,407.3	52,498.4	55,104.3	56,961.8	48,061.4	54,490.5	54,196.1
SEP	42,420.9	43,207.4	45,657.2	41,008.3	47,481.6	53,294.0	55,569.5	55,966.8	48,665.0	54,845.8	53,936.6
OCT	42,663.5	43,484.1	45,587.1	41,242.3	47,801.3	54,041.2	55,951.2	55,423.7	49,015.1	54,798.1	53,377.5
NOV	42,907.0	43,718.1	44,805.6	41,556.1	48,579.6	54,183.2	56,448.9	54,917.5	49,190.0	54,105.7	53,946.5
DEC	43,220.1	43,453.0	44,408.1	42,582.0	49,202.9	54,600.7	56,389.4	53,746.3	50,063.2	53,597.9	54,214.5



Source: BCI



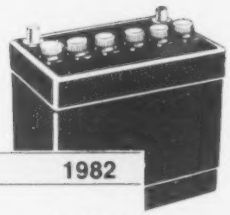
U.S. BATTERY SHIPMENTS

REPLACEMENT AND ORIGINAL EQUIPMENT SHARES BY PRODUCT CATEGORY (%'s)

	1978	1979	1980	1981	1982
PRODUCT CATEGORY	%R/%OE	%R/%OE	%R/%OE	%R/%OE	%R/%OE
Passenger Car, Light Commercial - 12 V	77/23	78/22	83/17	83/17	86/14
6 V	96/4	96/4	95/5	97/3	98/2
Heavy Duty Commercial					
12 V	77/23	73/27	75/25	79/21	82/18
6 V	94/6	92/8	92/8	94/6	96/4
Special Tractor	91/9	89/11	94/6	95/5	96/4
Marine	98/2	97/3	98/2	98/2	99/1
General Utility	63/37	59/41	67/33	72/28	78/22
Golf Car	82/18	86/14	85/15	91/9	93/7

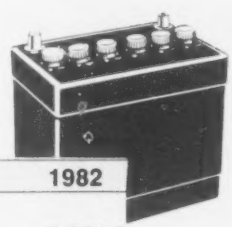
Source: BCI

UNITED STATES
REPLACEMENT BATTERY SHIPMENTS:*
PRODUCT CATEGORY (000's)



PRODUCT CATEGORY	1978	1979	1980	1981	1982
Passenger Car:					
12 Volt	44,808.7	43,056.8	40,034.3	42,790.2	44,207.8
6 Volt	1,717.7	1,528.5	1,354.8	1,529.0	1,460.7
Heavy Duty:					
12 Volt	2,134.8	1,998.7	2,009.2	2,211.5	2,002.9
6 Volt	2,697.8	2,500.9	2,102.6	1,935.0	1,719.7
Special Tractor	824.9	767.9	704.4	803.8	751.3
Marine	957.9	1,015.3	1,039.2	1,303.5	1,414.4
General Utility	1,061.1	980.3	911.8	1,110.3	1,156.2
Golf Car	1,032.5	940.8	931.5	932.3	866.2
Miscellaneous	628.7	446.6	499.8	607.2	255.7
Total	55,864.1	53,235.8	49,587.6	53,222.8	53,834.9

UNITED STATES
ORIGINAL EQUIPMENT BATTERY SHIPMENTS:
PRODUCT CATEGORY (000's)

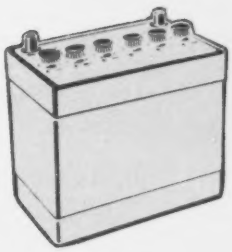


PRODUCT CATEGORY	1978	1979	1980	1981	1982
Passenger Car:					
12 Volt	13,337.8	12,427.8	8,440.9	8,661.2	7,384.5
6 Volt	78.4	66.4	70.7	42.8	31.2
Heavy Duty:					
12 Volt	648.7	751.7	655.5	591.3	451.1
6 Volt	166.1	201.5	174.6	133.7	80.9
Special Tractor	83.9	93.6	48.0	42.8	28.8
Marine	22.6	26.4	21.4	25.1	9.7
General Utility	623.9	672.9	441.9	431.5	319.5
Golf Car	222.7	149.4	165.5	94.0	67.6
Miscellaneous	3.5	0.0	0.0	0.0	0.0
Total	15,187.6	14,389.7	10,018.5	10,022.4	8,373.3

Source: BCI
Figures rounded
*Replacement figures - unindexed.

U.S. AUTOMOTIVE REPLACEMENT BATTERY SHIPMENTS TO CHANNELS OF DISTRIBUTION

Millions of Units



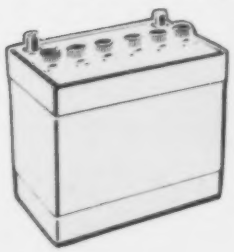
cont.

CHANNELS	YEAR									
	1970	**1971**	**1972**	**1973**	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**
GAS/OIL	5.7	5.5	5.0	5.4	5.3	4.1	4.6	5.3	4.8	4.5
TIRES/RUBBER	2.6	2.3	2.5	2.4	2.2	2.2	2.5	2.8	3.1	2.8
MASS MERCHANDISERS (Department Stores)	8.2	9.4	10.1	9.7	9.4	9.0	10.1	12.9	13.0	11.6
MASS MERCHANDISERS (Discount Stores)	|	|	|	|	1.0	1.8	2.0	2.4	2.6	2.4
MASS MERCHANDISERS (Auto Chains)	3.7	3.6	3.7	3.9	3.0	3.0	3.2	2.9	3.6	3.2
MASS MERCHANDISERS (Other)	|	|	|	|	1.2	1.2	1.3	1.7	1.7	1.6
FLEET OPERATIONS	.6	.6	.6	.5	.3	.3	.4	.4	.4	.4
GOVERNMENT	NA	NA	NA	NA	.2	.3	.3	.3	.3	.4
VEHICLE/EQUIP. MFG.	2.2	2.1	2.1	3.8	4.9	4.1	3.9	2.3	2.8	2.9
PARTS DISTRIBUTORS	9.2	9.4	7.5	7.6	10.2	7.8	10.5	11.9	11.0	11.1
BATTERY SPECIALISTS	3.4	3.8	4.5	7.2	4.6	6.1	6.9	8.6	10.4	10.2
OTHER	.2	.3	.4	.8	1.4	1.0	1.7	1.3	1.5	1.5
TOTAL	35.8	37.0	36.4	41.3	43.7	40.9	47.4	52.8	55.2	52.6
*No. Reporting	24	24	16	23	23	22	22	20	20	20

Source: BCI

*Shipments based on the above number of reporting members.

U.S. AUTOMOTIVE REPLACEMENT BATTERY SHIPMENTS TO CHANNELS OF DISTRIBUTION



Millions of Units

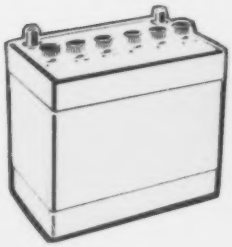
CHANNELS	YEAR 1980	1981r	1982
GAS/OIL	3.3	3.1	2.5
TIRES/RUBBER	2.2	2.3	2.2
MASS MERCHANDISERS (Department Stores)	10.1	11.0	11.4
MASS MERCHANDISERS (Discount Stores)	2.8	3.6	2.4
MASS MERCHANDISERS (Auto Chains)	3.0	3.1	3.3
MASS MERCHANDISERS (Other)	1.6	1.6	1.5
FLEET OPERATIONS	.3	.3	.3
GOVERNMENT	.4	.3	.5
VEHICLE/EQUIP. MFG.	2.2	2.4	3.4
PARTS DISTRIBUTORS	9.9	9.8	8.8
BATTERY SPECIALISTS	12.7	14.0	15.7
OTHER	.3	.6	.7
TOTAL	48.8	52.1	52.7
*No. Reporting	20	21	21

Source: BCI

*Shipments based on the above number of reporting members.

r - 1981 figures revised.

PERCENTAGES* OF U.S. AUTOMOTIVE REPLACEMENT SHIPMENTS TO CHANNELS OF DISTRIBUTION



CHANNELS	YEAR 1965	1970	1975	1980	1981r	1982
GAS/OIL	14.3	15.9	10.0	6.8	6.0	4.7
TIRES/RUBBER	9.0	7.3	5.4	4.5	4.4	4.2
MASS MERCHANDISERS (Department Stores)	19.1	22.9	22.0	20.7	21.1	21.6
MASS MECHANDISERS (Discount Stores)	NA	NA	4.4	5.7	6.9	4.6
MASS MERCHANDISERS (Auto Chains)	9.2	10.3	7.3	6.1	6.0	6.3
MASS MERCHANDISERS (Other)	NA	NA	2.9	3.3	3.1	2.8
FLEET OPERATIONS	1.5	1.7	.7	.6	.6	.6
GOVERNMENT	NA	NA	.7	.8	.6	.9
VEHICLE/EQUIP. MFG.	5.7	6.1	10.0	4.5	4.6	6.5
PARTS DISTRIBUTORS	29.2	25.7	19.1	20.3	18.8	16.7
BATTERY SPECIALISTS	8.9	9.5	14.9	26.0	26.9	29.8
OTHER	3.1	.6	2.5	.6	1.2	1.3
TOTAL	100.0%	100.0%	99.9%	99.9%	100.2%	100.0%
No. Reporting	24	24	22	20	21	21

Source: BCI

*Percentages rounded.

r - 1981 figures revised.

PRIVATE BRANDS VS. MANUFACTURER'S OWN (%'s)

U.S. BATTERY SHIPMENTS* TO CHANNELS OF DISTRIBUTION

YEAR

CHANNELS	1975 PB/MB	1976 PB/MB	1977 PB/MB	1978 PB/MB	1979 PB/MB	1980 PB/MB	1981r PB/MB	1982 PB/MB
GAS/OIL	91/9	88/12	87/13	87/13	86/14	82/18	87/13	87/13
TIRES/RUBBER	72/28	74/26	74/26	77/23	77/23	67/33	84/16	85/15
MASS MERCHANDISERS (Department Stores)	100/0	100/0	100/0	99/1	99/1	99/1	99/1	99/1
MASS MERCHANDISERS (Discount Stores)	94/6	94/6	96/4	99/1	99/1	99/1	98/2	98/2
MASS MERCHANDISERS (Auto Chains)	97/3	98/2	97/3	96/4	98/2	94/6	96/4	95/5
MASS MERCHANDISERS (Other)	76/24	92/8	93/7	88/12	82/18	80/20	94/6	96/4
PARTS DISTRIBUTORS	32/68	31/69	36/64	40/60	42/58	40/60	43/57	43/57
GOVERNMENT	1/99	3/97	1/99	2/98	0/100	0/100	5/95	11/89
FLEET OPERATIONS	11/89	28/72	27/73	16/84	15/85	14/86	2/98	3/97
VEHICLE/EQUIP. MFGS.	31/69	31/69	36/64	40/60	42/58	82/18	86/14	89/11
BATTERY SPECIALISTS	64/36	62/38	62/38	67/33	68/32	68/32	72/28	76/24
OTHER	30/70	62/38	92/8	94/6	84/16	32/68	39/61	41/59

Source: BCI

*Percentages rounded.

r - 1981 figures revised.

QUARTERLY PRODUCTION OF AUSTRALIAN S.L.I. BATTERIES (000's)

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
1ST QTR.	527.4	545.2	546.1	582.0	623.2	731.6	721.0	635.4	609.7	624.4
2ND QTR.	684.7	681.1	732.2	819.9	808.6	925.0	841.9	714.8	783.2	794.6
3RD QTR.	720.6	765.1	736.8	773.8	799.1	911.3	934.7	716.0	711.2	628.8
4TH QTR.	556.7	673.5	577.3	659.4	687.7	771.8	722.2	633.0	622.2	555.6
YEARLY TOTAL	2489.4	2664.9	2592.4	2835.1	2918.6	3339.7	3219.8	2699.2	2726.3	2603.4

AUSTRALIAN S.L.I. BATTERY PRODUCTION (000's) 12 MONTH MOVING TOTALS

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
JAN	2373.2	2524.2	2655.7	2569.7	2847.6	2966.7	3326.6	3189.6	2688.6	2735.8
FEB	2401.8	2552.8	2649.8	2588.9	2847.7	3004.5	3323.7	3181.6	2642.1	2752.6
MAR	2415.1	2507.2	2665.8	2628.3	2876.2	3027.4	3329.5	3134.1	2673.6	2740.9
APR	2429.9	2493.3	2712.3	2646.9	2861.7	3059.3	3286.0	3116.1	2703.6	2769.2
MAY	2449.8	2513.0	2675.4	2660.1	2871.7	3082.5	3295.4	3068.0	2703.9	2778.3
JUN	2439.7	2503.6	2716.9	2716.0	2865.1	3143.8	3246.3	3007.0	2742.0	2752.4
JUL	2461.8	2516.8	2696.2	2730.8	2859.1	3188.5	3244.9	2985.4	2722.5	2717.2
AUG	2478.3	2509.3	2688.2	2740.8	2862.1	3233.8	3272.7	2867.3	2750.5	2673.7
SEP	2467.3	2548.1	2688.6	2753.0	2890.7	3256.0	3269.5	2788.4	2737.0	2670.1
OCT	2463.8	2629.6	2633.7	2737.8	2851.2	3350.5	3252.1	2773.9	2723.8	2638.4
NOV	2488.4	2637.3	2585.9	2803.3	2896.7	3356.5	3245.1	2707.1	2714.6	2628.1
DEC	2489.3	2664.9	2592.4	2835.1	2919.0	3340.1	3219.8	2699.2	2726.2	2603.5

Source: Australian Lead Development Association

r - 1981 figures revised by Australian Bureau of Metal Statistics.

CANADIAN AUTOMOTIVE REPLACEMENT BATTERY SHIPMENTS (000's) TWELVE MONTH MOVING TOTALS

	YEAR							
MONTH	1975	1976	1977	1978	1979	1980	1981	1982
JAN	2449.3	2195.3	2886.4	2772.2	2435.8	2869.1	2653.5	2712.5
FEB	2387.9	2263.0	2830.5	2775.1	2460.7	2830.1	2712.3	2663.4
MAR	2325.5	2304.4	2777.8	2804.4	2488.8	2818.3	2724.6	2639.5
APR	2312.7	2306.5	2757.0	2824.0	2513.5	2786.2	2778.1	2621.7
MAY	2272.9	2279.6	2748.1	2848.8	2519.8	2742.9	2810.7	2672.2
JUN	2232.8	2272.2	2827.0	2760.5	2636.5	2655.5	2832.8	2697.7
JUL	2107.0	2306.0	2854.7	2689.1	2746.5	2564.0	2888.2	2652.1
AUG	2091.5	2523.5	2736.3	2672.7	2905.0	2374.4	2882.9	2646.6
SEP	2029.9	2657.7	2758.4	2617.9	2879.1	2390.8	2950.9	2918.0
OCT	2086.7	2720.7	2703.2	2615.5	2822.8	2545.1	2917.5	2872.6
NOV	2174.5	2748.0	2770.7	2496.9	2838.6	2626.3	2846.1	2875.8
DEC	2215.9	2864.6	2781.6	2445.1	2836.6	2710.1	2691.6	2994.4

Source: Statistics Canada

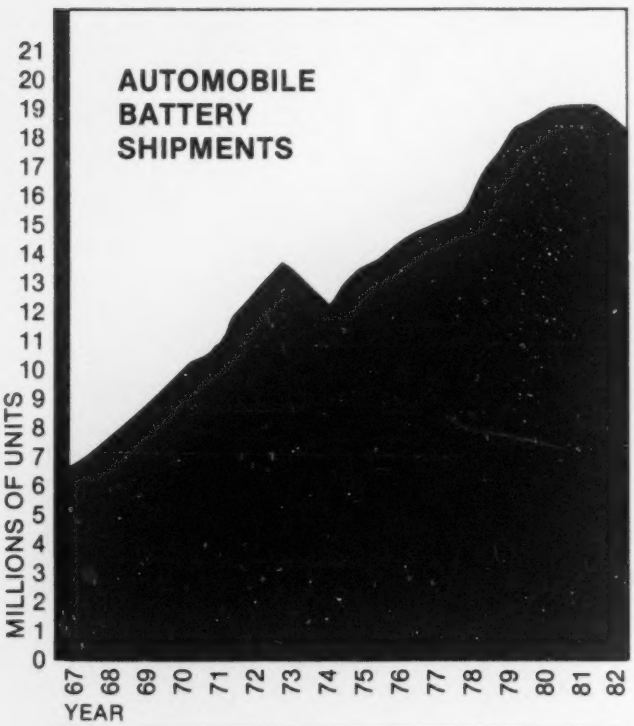
MEXICAN BATTERY MARKET

1975 - 1979
(Millions of Units)

	1975	1976	1977	1978	1979
Global Battery Sales	1.5	1.6	2.0	2.3	2.5
Estimated Annual Consumption of Batteries	2.1	2.3	2.5	2.7	2.8
Automobile Production	.4	.3	.3	.4	.4
Vehicles in Circulation	3.3	3.6	3.9	4.1	4.4

Source: Asociacion Nacional de Fabricantes de Acumuladores, A.C.
Figures rounded.

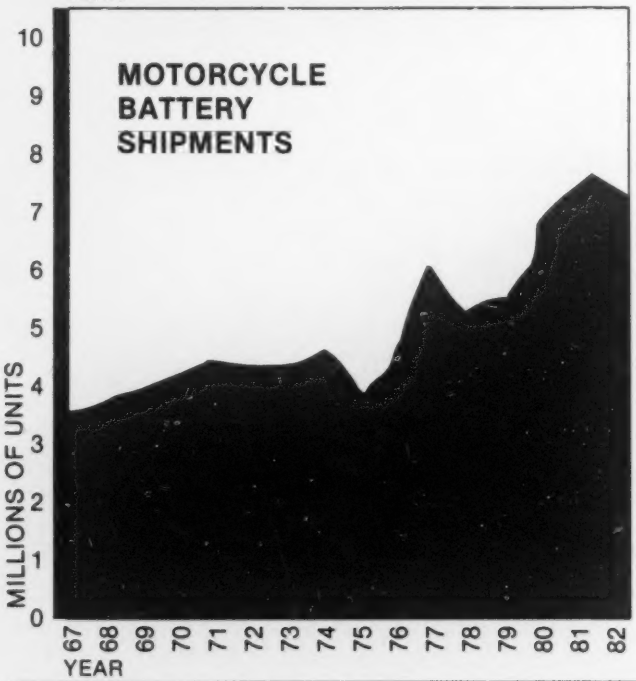
JAPANESE LEAD-ACID BATTERY SHIPMENTS
(1967 - 1982)



AUTOMOBILE BATTERY SHIPMENTS

MILLIONS OF UNITS

1967	6.4
1968	7.6
1969	9.1
1970	10.0
1971	10.6
1972	12.1
1973	13.6
1974	12.0
1975	13.1
1976	14.6
1977	15.2
1978	16.9
1979	18.2
1980	18.7
1981	19.1
1982	18.2



MOTORCYCLE BATTERY SHIPMENTS

MILLIONS OF UNITS

1967	3.6
1968	3.7
1969	3.9
1970	4.1
1971	4.3
1972	4.3
1973	4.3
1974	4.6
1975	3.9
1976	4.3
1977	5.9
1978	5.2
1979	5.4
1980	6.9
1981	7.5
1982	7.3

Source: Japan Storage Battery Association, Tokyo, Japan
Figures Rounded.

AUTOMOBILE-MOTORCYCLE JAPANESE BATTERY SHIPMENTS ORIGINAL EQUIPMENT VS REPLACEMENT*

Millions of Units

Year	Replacement	Original Equipment	Total Number
AUTOMOBILE BATTERIES			
1967	2.8	3.6	6.4
1968	3.2	4.4	7.6
1969	4.0	5.1	9.1
1970	4.3	5.7	10.0
1971	4.7	5.9	10.6
1972	5.4	6.7	12.1
1973	6.3	7.3	13.6
1974	5.3	6.7	12.0
1975	5.7	7.4	13.1
1976	6.4	8.2	14.6
1977	6.4	8.8	15.2
1978	7.5	9.4	16.9
1979	7.6	10.6	18.2
1980	7.1	11.6	18.7
1981	7.5	11.6	19.1
1982	7.1	11.1	18.2
MOTORCYCLE BATTERIES			
1967	1.3	2.3	3.6
1968	1.3	2.4	3.7
1969	1.3	2.6	3.9
1970	1.0	3.1	4.1
1971	1.1	3.2	4.3
1972	1.1	3.2	4.3
1973	1.1	3.3	4.4
1974	.6	4.0	4.6
1975	.7	3.2	3.9
1976	.8	3.5	4.3
1977	.9	5.0	5.9
1978	1.0	4.2	5.2
1979	1.1	4.3	5.4
1980	1.3	5.6	6.9
1981	1.2	6.3	7.5
1982	1.4	5.9	7.3

Source: Japan Storage Battery Association
*Figures rounded.

GLOBAL WESTERN EUROPEAN STARTER BATTERY MARKET
1975 - 1981

(Thousands of units)

	1975	1976	1977	1978	1979	1980	1981
Home market sales —OE— from home market producers	10,757	12,226	12,689	12,527	12,267	11,299	10,410
Home market sales-other clients from home market producers	18,449	20,878	22,284	22,222	22,135	20,406	19,650
Imports (after deduction of battery manufacturer imports)	3,045	4,188	5,081	5,379	6,495	6,335	6,820
TOTAL HOME MARKET SALES	32,251	37,292	40,054	40,128	40,897	38,040	36,880
Battery Production	33,846	39,738	42,549	42,456	43,721	40,706	39,269
Exports to Western Europe*	3,488	5,358	6,440	6,580	7,550	6,905	7,272
Other exports*	1,656	1,724	1,971	2,231	1,901	2,513	2,957
Production for Home Market	28,702	32,656	34,138	33,645	34,270	31,288	29,040
Imports from Western Europe**	3,105	3,984	5,207	5,229	6,244	5,714	6,145
Other Imports**	599	841	1,532	1,380	1,488	1,773	1,850
TOTAL OFFER FOR HOME MARKET	32,406	37,481	40,877	40,254	42,002	38,775	37,035

Source: EUROBAT-Austria, Belgium, Denmark, Finland, France, Germany, Great Britain, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland

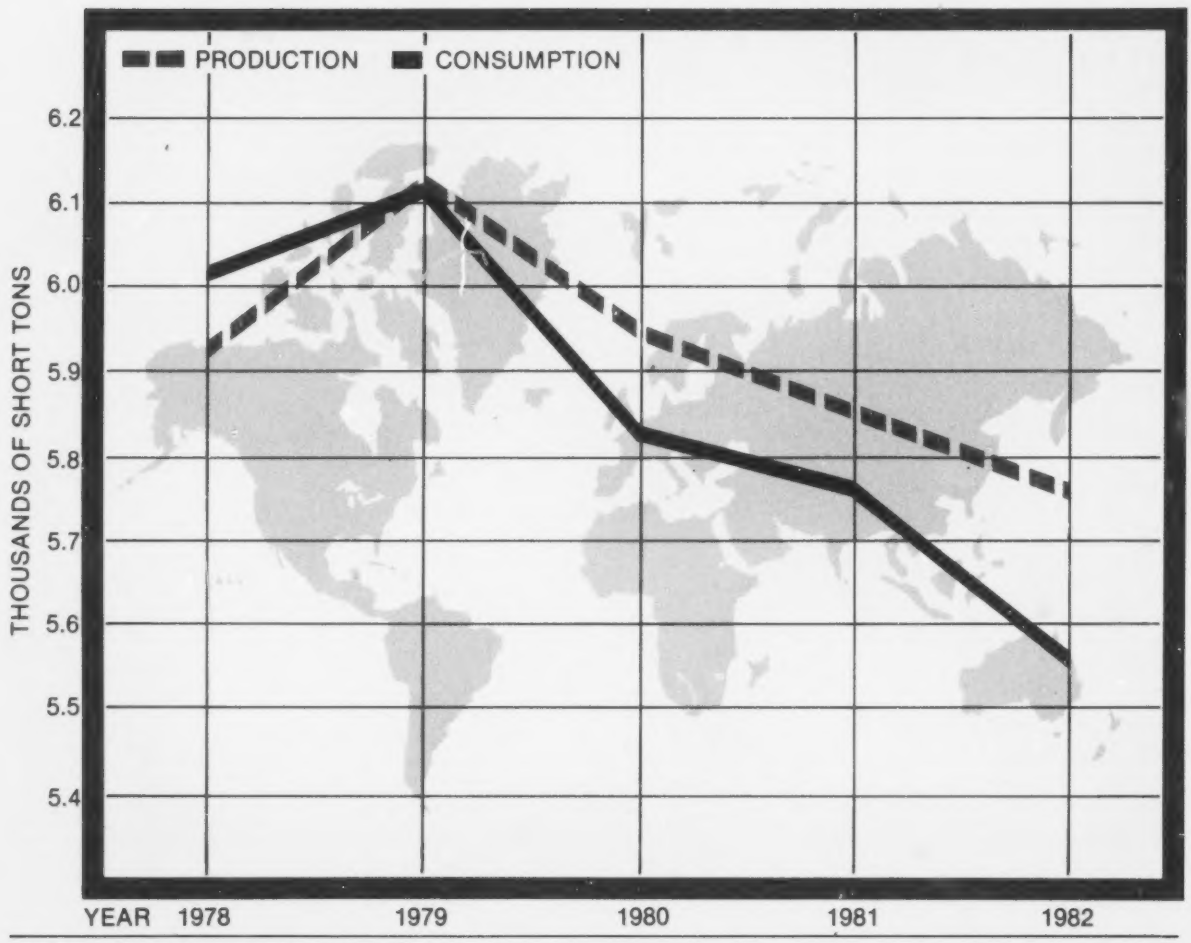
*includes exports to other battery manufacturers.

**includes imports from other battery manufacturers.

WORLD REFINED PRODUCTION AND CONSUMPTION OF LEAD

THOUSANDS OF SHORT TONS

	PRODUCTION	CONSUMPTION
1978	5937.2	6022.8
1979	6133.3	6124.9
1980	5943.0	5826.1
1981	5853.4	5756.6
1982	5767.3	5577.0



Source: World Bureau of Metal Statistics.

CONSUMPTION OF LEAD IN UNITED STATES BY PRODUCT CATEGORY

Lead Content-Short Tons

	1978	1979	1980	1981	1982
Metal Products Total	**1,238,439**	**1,159,257**	**932,603**	**1,051,279**	**919,798**
Ammunition-shot & bullets	61,482	58,683	53,641	54,580	47,402
Bearing metals total	10,483	10,615	8,606	7,630	6,412
Machinery except electrical		998	1,801	1,830	1,555
Electrical & electronic equipment		87	43	28	24
Motor vehicles & equipment		4,204	2,471	2,716	2,236
Other transportation equip.		5,326	4,291	3,056	2,597
Brass & bronze-billets & ingots	18,190	20,666	15,411	14,667	11,542
Cable covering-power & communication	15,268	18,070	14,780	13,307	16,338
Calking lead-building construction	10,923	8,837	6,266	6,087	5,522
Casting metals total	3,980	25,072	20,967	20,483	18,544
Electrical machinery & equipment		1,236	855	1,094	926
Motor vehicles & equipment		2,836	1,397	1,375	682
Other transportation and equipment		16,042	13,647	13,927	13,481
Nuclear radiation shielding		4,958	5,068	4,087	3,455
Pipes, traps & other extruded products total	11,551	7,921	9,476	9,732	9,349
Building construction		6,875	8,525	9,380	9,011
Storage tanks, process vessels, etc.		1,046	951	352	338
Sheet lead total	13,918	22,522	21,821	21,335	19,903
Building construction		15,623	14,267	13,540	13,683
Storage tanks, process vessels, etc.		6,899	7,554	1,034	209
Medical radiation shielding		(a)	(a)	6,761	6,011
Solder total	75,387	59,830	45,599	32,744	27,593
Building construction		10,777	4,968	6,798	6,757
Metal cans & shipping containers		15,967	11,319	8,542	7,246
Electronic components & accessories		11,402	9,074	6,180	4,982
Other electrical machinery & equipment		2,988	3,013	2,846	2,570
Motor vehicles & equipment		18,696	17,255	8,378	6,038
Storage battery grids, posts, etc. total	454,774	413,977	333,162	377,205	325,759
Storage batteries-SLI automotive		386,140	305,335	345,608	299,312
Storage batteries - industrial & traction		27,837	27,827	31,597	26,447
Storage battery oxides total	514,459	483,669	378,222	471,741	417,007
Storage batteries-SLI automotive		461,739	361,816	448,699	396,495
Storage batteries-industrial & traction		21,930	16,406	23,042	20,512
Terne metal-motor vehicles & equipment	4,165	5,023	3,154	4,377	3,504
Type metal-printing & allied industries	11,899	11,044	9,917	8,640	6,594
Other metal products (b)	31,960	13,328	11,581	8,751	4,329
Pigments Total	**101,018**	**100,078**	**86,455**	**88,367**	**70,113**
Paints		29,450	22,858	17,985	14,730
Glass & ceramic products		53,746	50,002	48,875	38,038
Other pigments (c)	101,018	16,882	13,595	21,507	17,345
Chemicals-Petroleum Refining	**196,576**	**206,071**	**140,989**	**122,761**	**131,432**
Miscellaneous Uses	**43,294**	**31,896**	**19,760**	**24,100**	**23,860**
Total	**1,579,327**	**1,497,302**	**1,179,807**	**1,286,507**	**1,145,203**

Source: U.S. Bureau of Mines. American Bureau of Metal Statistics, Inc.

(a) Included in storage tanks, process vessels, etc. above. (b) Includes lead consumed in foil, collapsible tubes, annealing, galvanizing, plating and fishing weights. (c) Includes lead content of leaded zinc oxide, color, and other pigments.

PRIMARY LEAD SMELTED AND REFINED IN THE UNITED STATES

Short Tons

	1978	1979	1980	1981	1982
Domestic Ore (a)	552,967	584,192	560,154	485,279	509,488
Foreign Ore and Base Bullion	70,030	50,310	43,461	60,721	55,800
Total (c)	622,997	634,502	603,615	546,000	565,288
Antimonial Lead (b)	5,518	3,750	971	3,922	na.
Antimony Content	783	299	30	555	na.

Source: U.S. Bureau of Mines

(a) Includes production resulting from zinc plant residues.

(b) A substantial portion derived from scrap.

(c) USBM considers refined lead to be only soft lead and accounts for antimonial or hard lead separately.

SECONDARY LEAD RECOVERED IN THE UNITED STATES

Short Tons

	1978	1979	1980	1981	1982
As Refined Metal					
At Primary Plants	1,371	3,155	2,334	1,923	800
At Other Plants	310,124	385,102	345,090	309,099	315,100
Sub Total	**311,495**	**388,257**	**347,424**	**311,022**	**315,900**
In Antimonial Lead					
At Primary Plants	1,523	590	3	51	50
At Other Plants	450,325	416,999	338,060	335,466	330,450
Sub Total	**451,848**	**417,589**	**338,063**	**335,517**	**330,500**
In Other Alloys	84,594	77,511	59,210	60,158	45,400
TOTAL	**847,937**	**883,357**	**744,697**	**706,697**	**691,800**
From New Scrap	131,986	141,785	103,828	69,527	70,316
From Old Scrap	715,951	741,572	640,869	637,170	621,484

Source: U.S. Bureau of Mines. American Bureau of Metal Statistics, Inc.

STOCKS OF LEAD AT UNITED STATES SMELTERS

Short Tons

	1978	1979	1980	1981	1982
Stocks At End Of Period					
Ore, Matte, Scrap & In Process	170,404	115,695	148,871	91,473	82,246
Base Bullion	4	217	306	392	404
TOTAL	170,408	115,912	149,177	91,865	82,650

Source: American Bureau of Metal Statistics.

CONSUMER AND SECONDARY SMELTER STOCKS OF LEAD IN THE UNITED STATES

Short Tons

	1978r	1979r	1980r	1981r	1982
Refined Soft Lead	67,386	77,386	58,049	61,637	43,543
Antimonial Lead	36,071	35,468	40,487	40,846	36,814
Lead Alloys	6,545	5,226	6,322	5,016	4,377
Copper Base Scrap	848	693	740	608	557
TOTAL	110,850	118,773	105,598	108,107	85,291

Source: U.S. Bureau of Mines.

r- figures revised.

UNITED STATES SHIPMENTS OF STORAGE BATTERY OXIDES

Total Weight Shipped, Short Tons

	1979	1980	1981	1982
Storage Battery Oxides Shipped				
JAN	15,314	11,450	7,708	10,461
FEB	12,469	7,671	7,010	8,647
MAR	14,412	6,619	7,469	10,253
APR	12,484	5,935	6,522	8,186
MAY	12,512	5,500	6,589	7,976
JUN	11,007	4,418	8,744	8,683
JUL	9,518	5,736	3,406	7,289
AUG	12,431	6,871	10,797	11,053
SEP	11,165	7,783	11,544	9,080
OCT	13,718	9,364	12,318	9,320
NOV	10,423	8,267	10,916	7,979
DEC	8,828	8,527	9,289	7,856
TOTAL	144,281	88,141	102,312	106,783

Source: American Bureau of Metal Statistics, Inc.

UNITED STATES IMPORTS AND EXPORTS OF LEAD

Short Tons

	1978	1979	1980	1981	1982
Imports					
Ores And Matte	58,403	44,089	48,606	64,534	39,471
Bullion Or Base Bullion	4,748	1,853	718	495	21
Pigs And Bars	243,956	211,273	90,096	112,348	100,519
Total	**307,107**	**257,215**	**139,420**	**177,377**	**140,011**
Reclaimed, Scrap, Dross, Etc.	6,187	7,366	8,004	5,804	9,256
Exports (includes re-exports)					
Lead Material (excluding scrap)	8,326	9,957	120,534	22,279	53,790
Scrap	108,723	131,998	131,820	65,498	57,047

Source: U.S. Dept. of Commerce - Bureau of Census.

AUSTRALIAN LEAD PRICES

F.O.B. Port Pirie Per Metric Tons — Prices Are Expressed In Australian Dollars

	1978	1979	1980	1981	1982
January	550.00	768.18	1,069.05	650.00	650.00
February	550.00	859.50	1,050.00	650.00	650.00
March	504.76	928.18	1,050.00	650.00	650.00
April	500.00	950.00	1,018.42	650.00	650.00
May	500.00	976.09	868.18	650.00	650.00
June	500.00	1,118.75	759.52	650.00	619.05
July	500.00	1,150.00	732.61	650.00	600.00
August	517.39	1,150.00	700.00	707.14	600.00
September	568.10	1,050.00	720.45	720.45	600.00
October	668.18	1,123.91	750.00	672.73	600.00
November	700.00	1,150.00	722.50	650.00	600.00
December	700.00	1,150.00	678.57	650.00	600.00

Source: Yearbook of the American Bureau of Metal Statistics.
(a) As from June 1, 1976 prices apply to both 99.99% and 99.97% purity lead.

CANADIAN PIG LEAD PRICES

U.S. Cents Per Pound

	1978	1979	1980	1981	1982
January	32.011	39.193	49.790	35.529	30.678
February	31.672	41.317	49.331	30.832	29.057
March	31.310	44.685	48.352	35.711	28.392
April	30.876	47.543	44.444	37.465	26.122
May	30.781	47.987	36.910	37.469	26.751
June	30.531	52.640	34.486	37.976	24.837
July	30.455	56.707	35.620	41.150	28.555
August	30.977	56.381	40.276	43.998	26.246
September	31.552	56.863	41.357	41.955	26.320
October	34.986	60.410	44.052	37.431	24.551
November	35.802	55.101	42.817	35.017	22.576
December	35.600	54.769	38.657	31.664	21.262

Source: Yearbook of the American Bureau of Metal Statistics.

LONDON METAL EXCHANGE LEAD PRICES

U.S. Cents Per Pound

	1978	1979	1980	1981	1982
January	30.033	44.967	50.663	31.948	29.374
February	26.423	47.791	52.926	31.236	28.010
March	26.345	53.318	50.718	33.063	27.752
April	25.957	52.601	43.884	34.382	26.047
May	24.652	56.158	35.493	31.584	26.049
June	25.839	62.627	33.442	32.302	23.585
July	26.390	57.644	36.736	35.548	25.032
August	28.964	54.962	38.652	37.343	23.695
September	31.410	55.771	40.007	34.609	23.350
October	37.632	59.768	39.502	32.467	22.542
November	36.474	55.492	36.893	30.183	20.960
December	38.929	53.334	33.684	30.555	20.299

Source: Yearbook of the American Bureau of Metal Statistics.

UNITED STATES PRODUCER LEAD PRICES

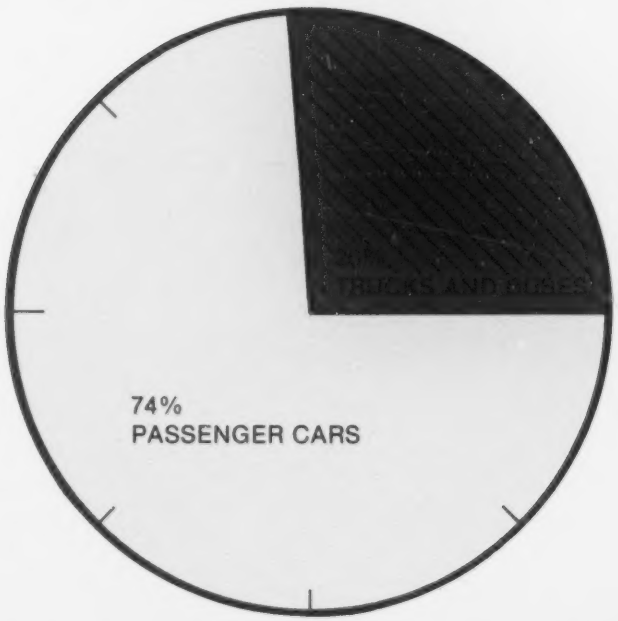
U.S. Cents Per Pound

	1978	1979	1980	1981	1982
January	33.000	40.760	49.879	33.793	29.674
February	33.000	43.632	49.559	30.422	28.703
March	33.000	45.749	49.233	35.056	27.635
April	33.000	48.000	44.015	37.519	26.059
May	31.000	48.805	36.002	36.413	26.091
June	31.000	56.510	34.190	37.973	24.763
July	31.000	58.066	35.604	40.985	27.175
August	32.168	57.913	40.962	43.890	25.818
September	34.059	58.004	42.259	40.323	25.318
October	36.610	61.057	45.000	37.049	26.191
November	38.000	57.262	43.806	33.875	21.608
December	38.000	55.947	38.966	31.071	20.469

Source: Yearbook of the American Bureau of Metal Statistics.

PASSENGER CAR AND TRUCK SHARES OF TOTAL VEHICLE PRODUCTION

Average for 1979-1982



WORLD MOTOR VEHICLE PRODUCTION 1979-1982 (Millions of Units)

1979

Passenger Cars Produced:	30.8 M	74%
Trucks, Buses Produced:	10.8 M	26%
TOTAL	41.6 M	100%

1980

Passenger Cars Produced:	28.4 M	74%
Trucks, Buses Produced:	10.0 M	26%
TOTAL	38.4 M	100%

1981

Passenger Cars Produced:	27.5 M	74%
Trucks, Buses Produced:	9.7 M	26%
TOTAL	37.2 M	100%

1982

Passenger Cars Produced:	26.9 M	74%
Trucks, Buses Produced:	9.3 M	26%
TOTAL	36.2 M	100%

Source: Motor Vehicle Manufacturers Association of the United States, complied from various sources.
Figures rounded.

WORLD MOTOR VEHICLE PRODUCTION

Millions of Units

COUNTRY		1978	1979	1980	1981	1982
Argentina	TOTAL (M)	.18	.25	.28	.17	.20
	%Cars	72%	76%	79%	82%	87%
	%Trucks, Buses	28%	24%	21%	18%	13%
Australia	TOTAL (M)	.39	.46	.37	.39	.41
	%Cars	82%	87%	86%	90%	91%
	%Trucks, Buses	18%	13%	14%	10%	9%
Austria	TOTAL (M)	.06	.09	.16	.02	.02
	%Cars	0%	33%	44%	47%	47%
	%Trucks, Buses	100%	67%	56%	53%	53%
Belgium	TOTAL (M)	.30	.31	.02	.26	.28
	%Cars	88%	87%	85%	85%	87%
	%Trucks, Buses	12%	13%	15%	15%	13%
Brazil	TOTAL (M)	1.06	1.13	1.17	.78	.81
	%Cars	50%	44%	52%	53%	87%
	%Trucks, Buses	50%	56%	48%	47%	13%
Canada	TOTAL (M)	1.82	1.63	1.37	1.32	1.21
	%Cars	61%	63%	61%	62%	66%
	%Trucks, Buses	39%	37%	39%	38%	34%
Czechoslovakia	TOTAL (M)	.22	.23	.23	.23	.16
	%Cars	82%	78%	78%	78%	66%
	%Trucks, Buses	18%	22%	22%	22%	34%
France	TOTAL (M)	3.51	3.61	3.38	3.02	3.20
	%Cars	89%	89%	87%	86%	88%
	%Trucks, Buses	11%	11%	13%	14%	12%
East Germany	TOTAL (M)	.21	.21	.22	.22	.15
	%Cars	81%	81%	82%	82%	74%
	%Trucks, Buses	19%	19%	18%	18%	26%
West Germany	TOTAL (M)	4.19	4.25	3.89*	3.90*	4.06
	%Cars*	93%	92%	90%	92%	93%
	%Trucks, Buses	7%	8%	10%	8%	7%
Hungary	TOTAL (M)	.02	.01	.02	.01	.01
	%Cars	0%	0%	0%	0%	0%
	%Trucks, Buses	100%	100%	100%	100%	100%
India	TOTAL (M)	.10	.10	.11	.15	.15
	%Cars	30%	29%	27%	27%	28%
	%Trucks, Buses	70%	71%	73%	73%	72%
Italy	TOTAL (M)	1.66	1.63	1.61	1.43	1.45
	%Cars	91%	91%	90%	88%	89%
	%Trucks, Buses	9%	9%	10%	12%	11%

*Includes Micro Buses.

WORLD MOTOR VEHICLE PRODUCTION Cont.

COUNTRY		1978	1979	1980	1981	1982
Japan	TOTAL (M)	9.30	9.64	11.04	11.18	10.73
	%Cars	64%	64%	63%	62%	64%
	%Trucks, Buses	36%	36%	37%	38%	36%
Korea	TOTAL (M)			.12	.13	.16
	%Cars	Not Available	Not Available	41%	46%	59%
	%Trucks, Buses			59%	54%	41%
Mexico	TOTAL (M)	.38	.44	.49	.60	.47
	%Cars	63%	63%	61%	58%	64%
	%Trucks, Buses	37%	37%	39%	42%	36%
Netherlands	TOTAL (M)	.08	.11	.10	.09	.10
	%Cars	75%	81%	80%	88%	90%
	%Trucks, Buses	25%	19%	20%	12%	10%
Poland	TOTAL (M)	.42	.43	.42	.29	.28
	%Cars	80%	83%	83%	82%	83%
	%Trucks, Buses	20%	17%	17%	18%	17%
Portugal	TOTAL (M)	.0006	.0003	.0002	.0001	.0001
	%Cars	0%	0%	0%	0%	0%
	%Trucks, Buses	100%	100%	100%	100%	100%
Romania	TOTAL (M)	.12	.12	.13	.13	.13
	%Cars	58%	58%	61%	61%	60%
	%Trucks, Buses	42%	42%	39%	39%	40%
Spain	TOTAL (M)	1.14	1.12	1.18	.99	1.07
	%Cars	86%	86%	87%	86%	87%
	%Trucks, Buses	14%	14%	13%	14%	13%
Sweden	TOTAL (M)	.31	.35	.30	.31	.35
	%Cars	83%	85%	80%	83%	84%
	%Trucks, Buses	17%	15%	20%	17%	16%
Switzerland	TOTAL (M)	.001	.001	.001	.001	.0008
	%Cars	10%	0%	0%	0%	0%
	%Trucks, Buses	90%	100%	100%	100%	100%
United Kingdom	TOTAL (M)	1.60	1.48	1.31	1.18	1.16
	%Cars	76%	72%	70%	80%	77%
	%Trucks, Buses	24%	28%	30%	20%	23%
United States	TOTAL (M)	12.90	11.48	8.00	7.94	6.99
	%Cars	70%	73%	79%	78%	73%
	%Trucks, Buses	30%	27%	21%	22%	27%
USSR	TOTAL (M)	2.15	2.17	2.20	2.19	2.21
	%Cars	60%	60%	51%	60%	60%
	%Trucks, Buses	40%	40%	49%	40%	40%
Yugoslavia	TOTAL (M)	.28	.32	.28	.29	.24
	%Cars	89%	90%	92%	89%	88%
	%Trucks, Buses	11%	10%	8%	11%	12%
TOTAL WORLD		42.40M	41.57M	38.40M	37.22M	36.00M

Source: Compiled by Motor Vehicle Mfgers. Assoc. of U.S. Inc. from various sources.
Figures rounded.
Note: As far as can be determined, this table refers to vehicles locally manufactured.

VEHICLES IN USE IN THE U.S.

Millions of Units

*1947	33.5
1948	36.6
1949	39.8
1950	43.5
1951	46.6
1952	48.2
1953	50.9
1954	53.2
1955	56.5
1956	59.3
1957	61.2
1958	62.5
1959	65.6
1960	67.9
1961	69.9
1962	72.4
1963	75.4
1964	78.5
1965	82.1
1966	85.6
1967	88.0
1968	91.0
1969	95.1
1970	98.1
1971	101.6
1972	106.2
1973	111.2
1974	115.9
1975	120.1
1976	124.4
1977	128.1
1978	133.5
1979	137.3
1980	139.8
1981	141.9
1982	143.9

Source: R.L. Polk & Company. Further reproduction prohibited.
*As of July 1 each year.
Figures rounded.

UNITED STATES
MOTOR VEHICLE REGISTRATIONS (In Millions)

	1978	1979	1980	1981	1982*
ALABAMA	2.78	2.92	3.01	3.08	3.21
ALASKA	.26	.26	.27	.30	.31
ARIZONA	1.66	1.85	2.00	2.20	2.34
ARKANSAS	1.46	1.54	1.61	1.69	1.74
CALIFORNIA	15.58	16.99	17.62	17.53	17.59
COLORADO	2.32	2.47	2.46	2.60	2.66
CONNECTICUT	2.18	2.28	2.22	2.18	2.17
DELAWARE	.39	.40	.41	.42	.42
D.C.	.24	.25	.27	.28	.29
FLORIDA	6.92	7.52	7.83	8.19	8.34
GEORGIA	3.66	3.85	3.93	3.97	4.00
HAWAII	.53	.57	.58	.59	.60
IDAHO	.76	.83	.89	.91	.93
ILLINOIS	7.09	7.56	7.78	7.90	8.01
INDIANA	3.74	3.96	4.01	4.06	4.16
IOWA	2.32	2.56	2.55	2.59	2.62
KANSAS	1.93	2.07	2.11	2.14	2.16
KENTUCKY	2.54	2.67	2.66	2.66	2.67
LOUISIANA	2.56	2.75	2.86	2.90	2.94
MAINE	.71	.76	.77	.78	.77
MARYLAND	2.70	2.84	2.88	2.93	2.98
MASSACHUSETTS	3.64	3.82	3.85	3.88	3.89
MICHIGAN	6.25	6.59	6.74	6.41	6.33
MINNESOTA	2.91	3.18	3.26	3.34	3.38
MISSISSIPPI	1.52	1.51	1.61	1.61	1.61
MISSOURI	3.16	3.34	3.38	3.44	3.48
MONTANA	.83	.70	.71	.77	.80
NEBRASKA	1.21	1.28	1.31	1.26	1.25
NEVADA	.59	.66	.75	.72	.75
NEW HAMPSHIRE	.65	.69	.75	.82	.83
NEW JERSEY	4.55	4.82	4.87	4.80	4.83
NEW MEXICO	.99	1.08	1.12	1.10	1.10
NEW YORK	7.87	8.17	8.20	8.31	8.38
NORTH CAROLINA	4.30	4.55	4.65	4.66	4.70
NORTH DAKOTA	.60	.64	.66	.67	.68
OHIO	7.65	7.96	8.05	8.01	8.00
OKLAHOMA	2.44	2.72	2.71	2.75	2.95
OREGON	1.92	2.09	2.17	2.17	2.18
PENNSYLVANIA	6.71	6.97	7.14	7.24	7.35
RHODE ISLAND	.65	.61	.65	.62	.63
SOUTH CAROLINA	1.92	2.01	2.03	2.01	2.03
SOUTH DAKOTA	.58	.63	.64	.65	.65
TENNESSEE	2.95	3.08	3.36	3.62	3.65
TEXAS	10.15	10.29	10.79	11.46	11.79
UTAH	.96	1.05	1.06	1.10	1.12
VERMONT	.34	.37	.37	.37	.38
VIRGINIA	3.44	3.59	3.71	3.93	4.01
WASHINGTON	2.96	3.26	3.37	3.48	3.49
WEST VIRGINIA	1.17	1.30	1.36	1.39	1.43
WISCONSIN	2.74	2.93	3.12	3.30	3.34
WYOMING	.41	.48	.49	.51	.53

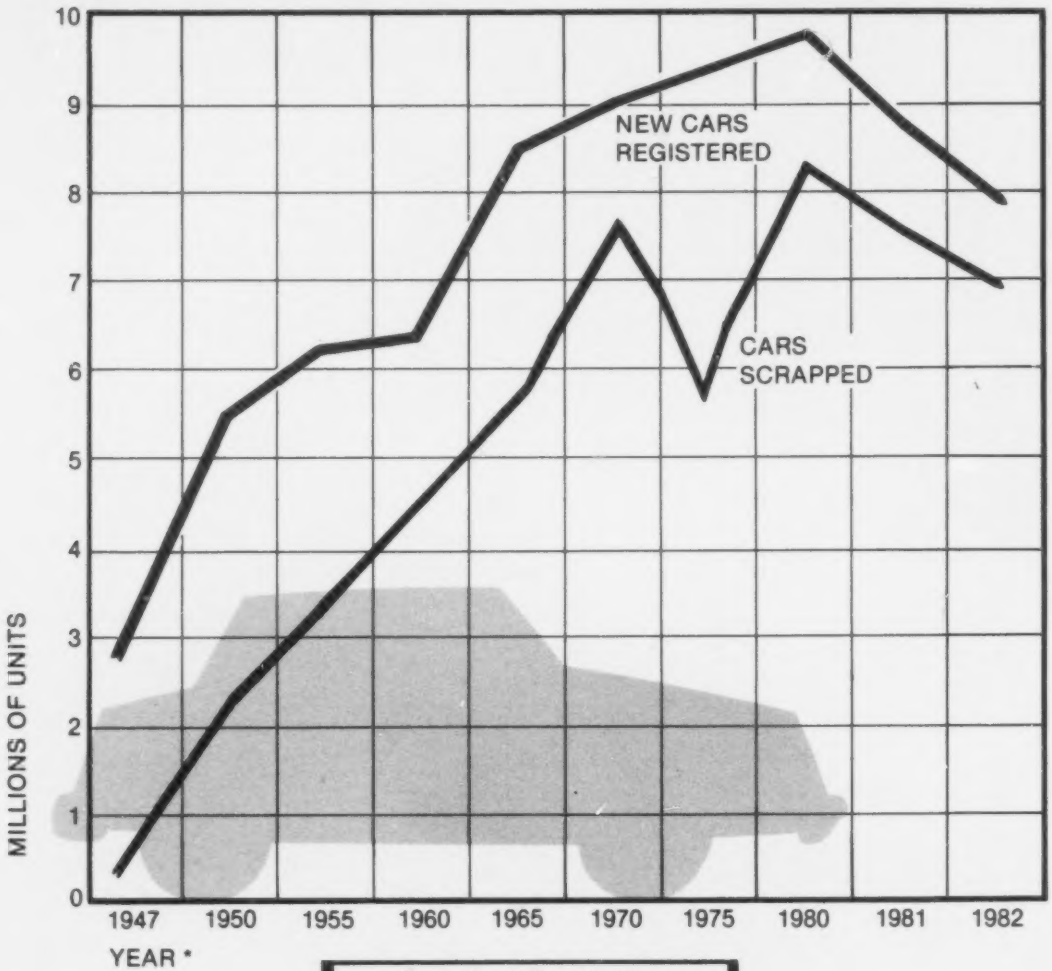
Source: U.S. Federal Highway Administration

Note: 1978 — Auto, Truck, Buses 1979, 1980, 1981, 1982 — Autos, Trucks, Buses, and Motorcycles

*Preliminary.

Registrations include both privately and publicly-owned vehicles.

PASSENGER CAR GROWTH IN THE UNITED STATES



Growth of Cars In Use	
1947	9.5%
1950	9.8%
1955	6.7%
1960	3.1%
1965	4.4%
1970	2.5%
1975	2.8%
1980	1.2%
1981	1.2%
1982	1.0%

Source: R.L. Polk & Co. Further reproduction prohibited.
*As of July 1 each year.

UNITED STATES — NEW CAR REGISTRATIONS

Millions of Units

1946	2.9	1965	9.2
1947	3.3	1966	8.7
1948	4.0	1967	8.6
1949	5.5	1968	9.5
1950	6.3	1969	9.4
1951	4.4	1970	8.7
1952	4.9	1971	10.2
1953	5.7	1972	11.4
1954	6.2	1973	10.0
1955	6.7	1974	8.3
1956	5.9	1975	9.4
1957	5.3	1976	10.3
1958	5.6	1977	11.0
1959	6.4	1978	11.0
1960	6.0	1979	9.6
1961	6.4	1980	8.8
1962	7.3	1981	8.4
1963	7.9	1982	7.9
1964	8.6		

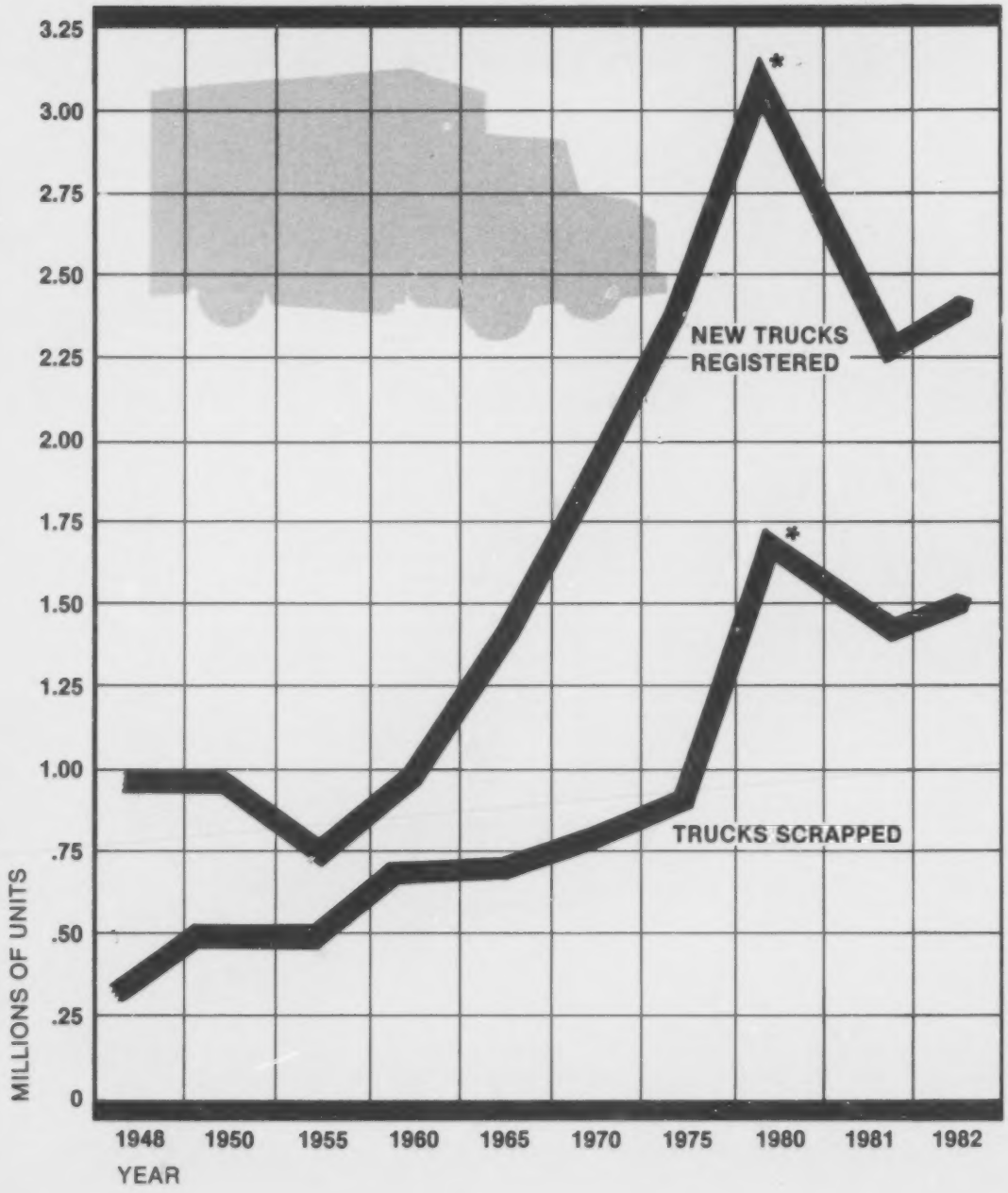
Source: R.L. Polk & Co. Further reproduction prohibited.
Note: Adjustments for absence of Oklahoma and other states have been made where applicable.
As of July 1 each year.

UNITED STATES
NEW CAR REGISTRATIONS (000's)

	1980	1981	1982*
Alabama	124.1	112.1	100.7
Alaska	12.6	16.7	16.3
Arizona	98.9	89.4	75.0
Arkansas	72.1	73.5	66.0
California	902.5	846.2	806.8
Colorado	117.8	116.0	103.7
Connecticut	133.6	127.0	121.2
Delaware	31.8	30.9	30.1
District of Columbia	16.8	18.0	15.8
Florida	477.8	505.8	466.0
Georgia	210.2	193.3	163.0
Hawaii	37.1	39.2	37.1
Idaho	27.0	29.8	21.7
Illinois	494.1	454.0	450.4
Indiana	193.8	180.6	158.9
Iowa	97.1	94.4	80.7
Kansas	90.7	81.0	75.2
Kentucky	85.6	105.5	88.0
Louisiana	164.4	162.6	141.7
Maine	34.1	43.6	38.2
Maryland	216.3	214.9	204.5
Massachusetts	215.8	222.3	221.5
Michigan	450.0	445.8	374.6
Minnesota	191.7	177.3	157.4
Mississippi	69.6	64.1	56.8
Missouri	176.0	165.8	152.9
Montana	25.4	25.1	20.0
Nebraska	55.1	49.7	43.6
Nevada	36.9	34.6	28.1
New Hampshire	59.6	58.2	56.1
New Jersey	365.4	320.0	324.2
New Mexico	43.8	43.2	40.8
New York	605.5	578.2	549.3
North Carolina	201.2	191.6	179.4
North Dakota	23.0	23.9	20.5
Ohio	438.6	393.9	361.6
Oklahoma*	NA	NA	NA
Oregon	101.5	92.3	72.2
Pennsylvania	467.9	425.1	408.2
Rhode Island	33.7	29.9	27.9
South Carolina	108.9	98.3	87.0
South Dakota	20.1	19.6	15.9
Tennessee	149.2	138.0	130.9
Texas	607.8	645.4	593.6
Utah	34.9	52.6	37.8
Vermont	23.6	24.4	23.6
Virginia	205.5	207.8	190.3
Washington	140.3	124.8	101.7
West Virginia	63.1	63.0	53.8
Wisconsin	171.4	157.6	138.2
Wyoming	19.4	18.3	15.4
Federal Government	18.1	18.9	10.1
TOTAL	8,761.4	8,444.2	7,754.4

Source: R.L. Polk & Co. Further reproduction prohibited.
*Calendar years.
Figures rounded. NA-not available.

TRUCK GROWTH IN THE UNITED STATES



Growth of Trucks In Use	
1948	11.3%
1950	6.9%
1955	4.1%
1960	2.6%
1965	5.5%
1970	6.6%
1975	6.4%
1980	4.1%
1981	2.3%
1982	2.5%

Source: R.L. Polk & Co. Further reproduction prohibited.
*Includes window vans transferred from passenger car to truck category.
As of July 1 each year.

UNITED STATES — NEW TRUCK REGISTRATIONS

Millions of Units

1946	.8	1965	1.6
1947	1.0	1966	1.6
1948	1.0	1967	1.6
1949	1.0	1968	1.9
1950	1.2	1969	1.9
1951	.9	1970	1.8
1952	.9	1971	2.4
1953	.9	1972	2.9
1954	.8	1973	3.0
1955	1.0	1974	2.4
1956	.9	1975	2.8
1957	.8	1976	3.3
1958	.9	1977	3.8
1959	1.0	1978	3.9
1960	.9	1979	3.1
1961	1.0	1980	2.3
1962	1.2	1981	2.2
1963	1.3	1982	2.4
1964	1.4		

Source: R.L. Polk & Co. Further reproduction prohibited.
Note: Adjustments for absence of Oklahoma and other states have been made where applicable.
As of July 1 each year.

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